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NINETEENTH ANNUAL REPORT

OF THE

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Agricultural Experiment
Association

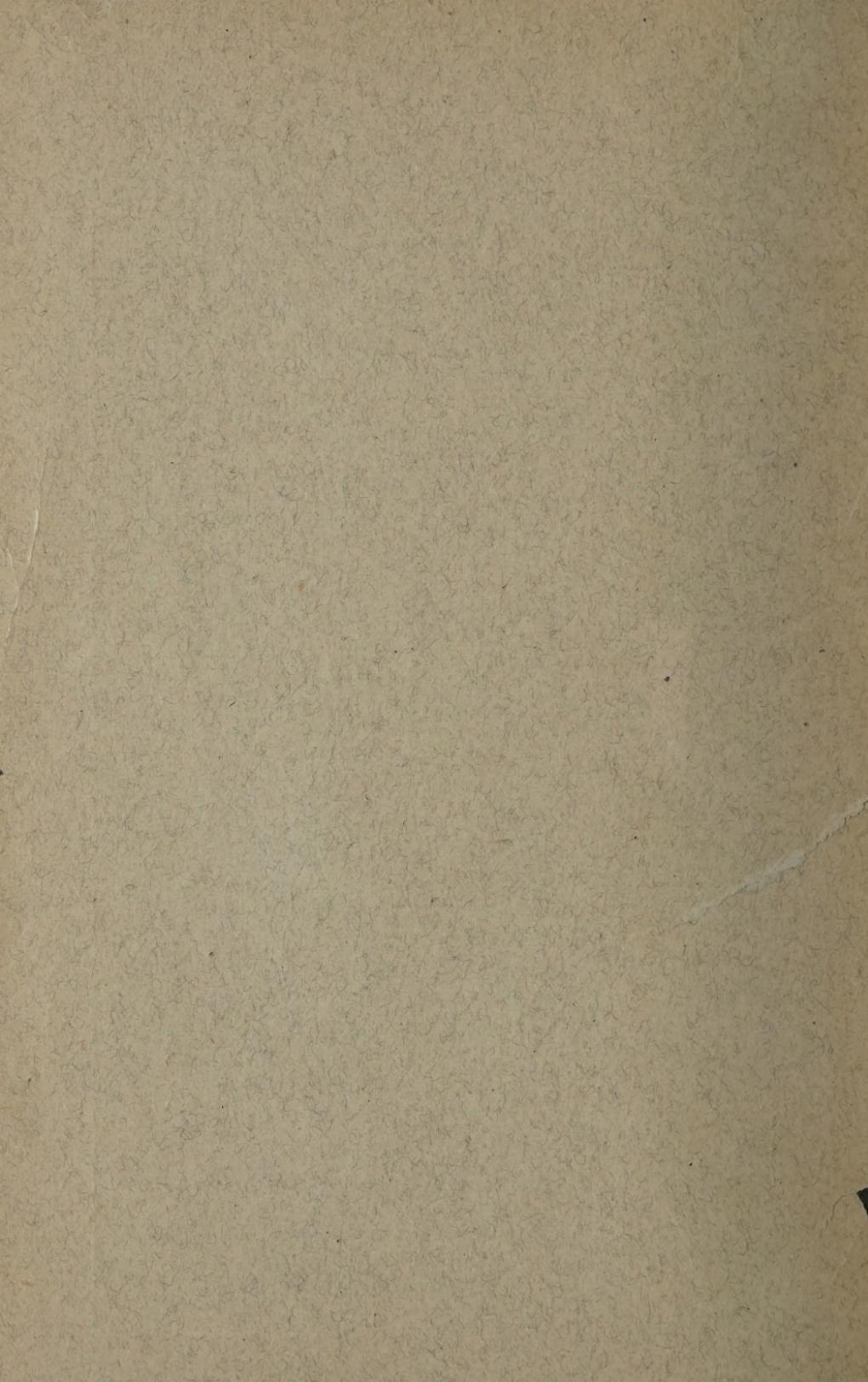
WITH SEVENTH ANNUAL REPORT OF

ALFALFA ORDER

Address of President, Secretary's Report, and Account of the Association's Activities in Promoting Progressive Agriculture.

COMPILED BY
R. A. MOORE, *Secretary*

MADISON, WIS.
The Homestead Co.,
1921



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LETTER OF TRANSMITTAL

WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION

MADISON, Wis., 1921.

To His Excellency, J. G. BLAINE,
Governor of the State of Wisconsin:

Sir—I have the honor to submit for publication, as provided by law, the Nineteenth Annual Report of the Wisconsin Agricultural Experiment Association, showing the receipts and disbursements the past year, and giving an account of the Association's activities in promoting progressive agriculture.

Respectfully submitted,
R. A. MOORE,
Secretary.

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OFFICERS—1921

President.....	C. S. RISTOW, Black River Falls
Vice President.....	JOE BRUNKER, Ridgeway
Secretary.....	R. A. MOORE, Madison
Assistant to the Secretary.....	E. D. HOLDEN, Madison
Treasurer.....	PETER SWARTZ, Waukesha
Clerk and Stenographer.....	CLARA BRABANT, Madison

COMMITTEES

Executive:

GEO. W. DAVIES.....	Lancaster
J. R. THORPE.....	Beloit
A. L. STONE.....	Madison
H. E. KRUEGER.....	Beaver Dam
T. H. CAMPION.....	Onalaska
GEO. BRIGGS.....	Madison
E. J. DELWICHE.....	Ashland
F. E. BELL.....	Columbus
J. N. KAVANAUGH.....	Green Bay
HENRY MICHAELS.....	Fond du Lac

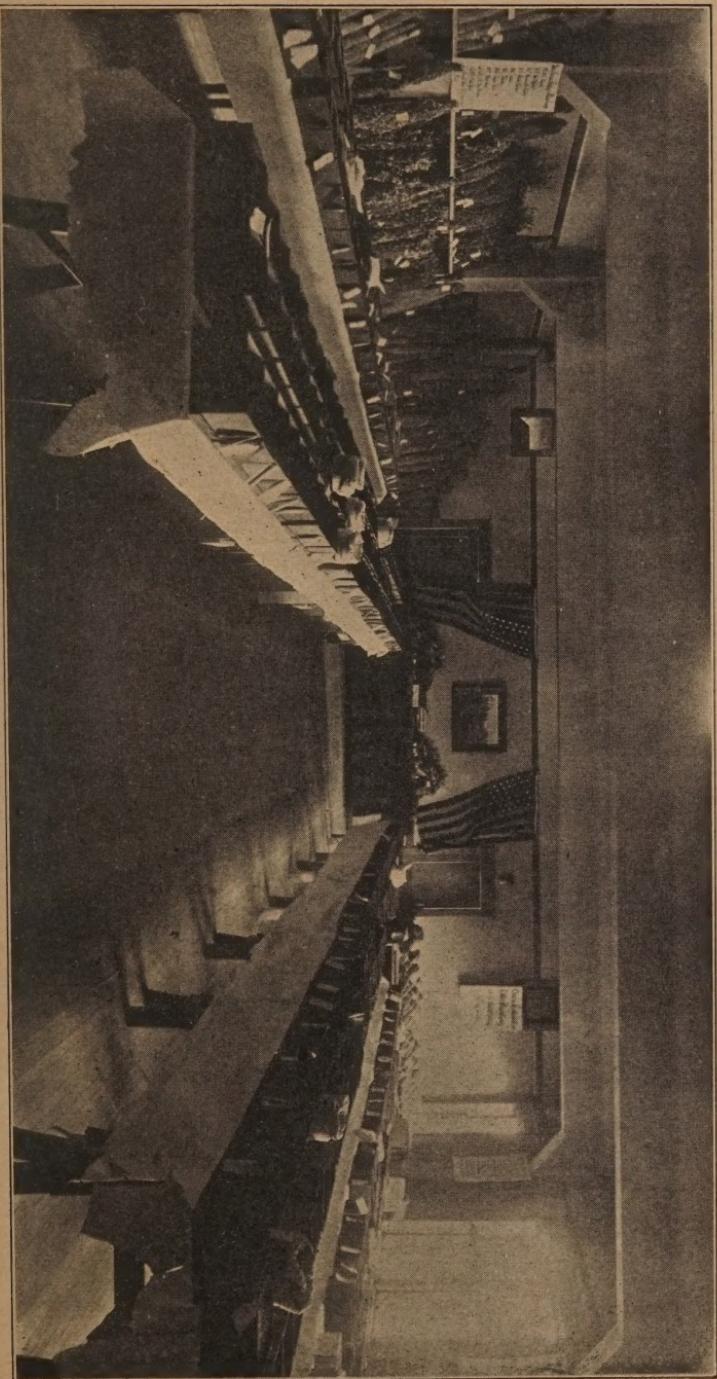
Resolutions:

F. G. SWOBODA.....	Wausau
C. P. NORRIS.....	Madison
H. E. KRUEGER.....	Beaver Dam

Finance:

C. P. NORRIS.....	Madison
H. N. LONGLEY.....	Dousman
H. E. KRUEGER.....	Beaver am

THE 1921 GRAIN SHOW SET A NEW RECORD IN NUMBER OF EXHIBITS



TWENTIETH ANNUAL MEETING

And Annual Meeting Of ALFALFA ORDER—SORGHUM ORDER

After an interval of two years during which the Association's Annual Meetings could not be held on account of the prevalence of influenza, the 1921 meeting was held at La Crosse in connection with the Pure Bred Grain Show. The following interesting program was carried out, and accounts of the various features are found elsewhere in the report.

FRIDAY, JANUARY 28

Morning

- | | | |
|-------|---|--|
| 8:30 | President's Address..... | Frank Bell, Columbus |
| 8:45 | Secretary's Report..... | R. A. Moore, Madison |
| 9:30 | Soybean Program..... | Chairman G. M. Briggs, Madison |
| | Soybean Lesson Learned During 1920 Season | P. W. Jones, Black River Falls |
| | Harvesting With Special Soybean Harvester | H. W. Albertz, Madison |
| | Pointers on Threshing Soybeans—Discussion | C. S. Ristow, Black River Falls |
| | Marketing Soybean Seed—Discussion | W. J. Rogan, Mauston |
| | Advantages of Having a Soybean Organization | R. A. Moore, Madison |
| 11:15 | Address..... | C. P. Norgord, Commissioner of Agr., Madison |

Afternoon

- | | | |
|------|--|--|
| 1:30 | Amazing Truths Concerning Alfalfa, Recently Discovered | L. F. Graber, Secretary Alfalfa Order, Madison |
| 2:30 | Discussion, led by Peter Swartz, Waukesha, Pres. Alfalfa Order | |
| 3:15 | Importance of Crop Rotation in Growing Pure Bred Seed | Prof. Andrew Boss, University of Minnesota |
| 3:45 | Progress of Sorghum Syrup Industry—Discussion | A. H. Wright, Madison, Sec. Sorghum Order |

Evening

Winter Carnival Parade and Skating Exhibition
SATURDAY, JANUARY 29

Morning

- | | | |
|-------|--|----------------------------------|
| 8:00 | Business Meeting and Election of Officers | |
| | | Wisconsin Experiment Association |
| | | Alfalfa Order |
| 8:00 | Junior Corn Judging Contest | |
| 11:00 | Inspection of Prize Winning Exhibits at Pure Bred Grain Show | |

PRESIDENT'S ADDRESS

F. E. BELL, Columbus

Members of the Wisconsin State Experiment Association, People of La Crosse, Ladies and Gentlemen:

You no doubt have often heard people remark, "Such and such a thing was the greatest event of my whole life," and they thought they spoke truthfully, too. Unless they had in mind the day of their birth, however, they were mistaken. For the beginning of life is the one great event in human existance. With societies, associations or corporations it is the same. Without beginning there can be no growth, no progress, no benefit to humanity. People, if you would do anything, start something. The Greatest Event in the life of this Experiment Association came the day when the men at the head of Our College of Agriculture felt the need of some vehicle to get results of their work into the hands of the progressive farmers of our State.

Whenever a problem arises there is always a solution just around the corner. And the skeleton of this Association grew from ideas largely advanced by our Secretary, R. A. Moore, then, as now, its secretary and guardian angel.

The members were comparatively few as Wisconsin had graduated small classes as yet from the Agricultural College, and contained fewer men of college training from other sources.

However, they were enough and the work they accomplished in awakening interest in scientific grain breeding can never again be equaled by any similar body of men.

The scope of the work at the College broadened yearly. The science of grain breeding became I say almost an exact science; and the Order was not large enough to get our Wisconsin farmers the good tidings of our many pedigreed seeds and grains as rapidly as it seemed best. So about 15 years ago we began having in Wisconsin what I like to think of as short courses in agriculture, farm schools, high schools with agricultural training, and county schools of agriculture,

RED CLOVER

ture, and a little later County Orders of the Wisconsin Experiment Association. From all of these sources we draw new members, and I believe that some of our most energetic and enthusiastic members came to us from these sources.



Unless my memory plays me false, La Crosse County gave us two of our most successful members from these later sources. One of them 75 years young with his head bald and shining, I think from the working of his active brain. No agricultural show in Wisconsin is complete without him, and he surely has solved the problem of taking the gold out of golden glow, and growing alfalfa that makes our own Peter Swartz sit up and take notice. Another of your good La Crosse County products is no less skilled in taking the silver out of Silver King.

That man is S. P. Markle and these two men have shed as much glory in your country agriculture as your own Hamlin Garland has in literature. Here in Wisconsin we have great seed companies. The catalogues go broadcast throughout the state. Their pages feature many wonderful things. The men at the head must have vision, they must have intelligence, they must have honesty else they could never have made their business so successful. I know they have vision and intelligence because they feature Wisconsin Pedigree wheat, Wisconsin Pedigree rye, Wisconsin Pedigree oats, Wisconsin Pedigree barley, Wisconsin No. 7 corn, Wisconsin No. 12 corn, and Wisconsin certified seed potatoes. I would like to suggest to them and to you this slogan, and have them print it in bold type across their front page, while you engrave in letters of gold upon your memory, "Wisconsin Seed for Wisconsin Needs."

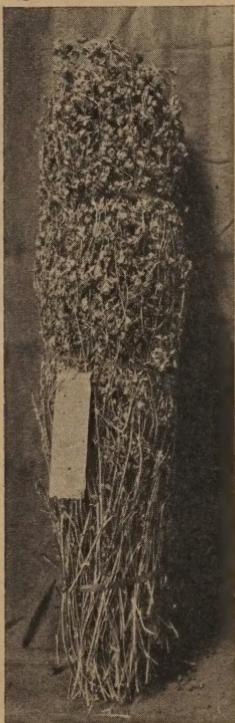
Because I truly believe that with our membership scattered in every hamlet of the state you need never go far for products grown under your local conditions, and get good pedigree seeds, too.

Gone forever is the day when you take a load of grain a dozen miles and exchange with a friend to get grain that is not run out on your own farm. Use your fanning mill instead. A series of experiments covering a period of thirty years have an increase of nearly 2 bushels per acre, average yield in practically every kind of grain by constant and intelligent use of the fanning mill. However, if you wish to truly progress confine yourselves to Pedigreed strains and fan, fan, fan.

ALSIKE CLOVER

I wish to say that today with this meeting we begin a new epoch in the activities of our Association.

Just as our needs called for more members from time to time if we were to do our duty to our state. It seemed as though we were not reaching as many people as we should with our meetings and our shows. Was it because Madison was too far away from many of the people out in the state? Perhaps. Then why not take mountain to



Mahomet if Mahomet would not come to the mountain? While we were pondering the question the Chamber of Commerce of your city came to us with an invitation to your city, backed by such other inducement that we would have been both selfish and foolish to have refused. So we are here. We want you to take this meeting and make it your own. We want you to take this show and make it your own. We want you to study the samples, the prize winners, and all the rest until you have so vivid a picture of them on your brain that you may come to our show next year and make this year's prize winners step fast to hold their place. If you have not good pedigreed seeds to start with get our growers' list and supply yourself and come on in.

The favorite occupation in the past nine months has been in passing the buck, and the most of us farmers feel sometimes as though we were the final catcher, and were obliged to hold it, too.

Never mind, brother farmers, even though you feel you have only the rind of a lemon and some one else has the juice, pulp, and seeds, be an optimist take the rind and make the very best glass of lemonade you can from it. Be earnest, be honest, be industrious, be optimistic, and it will all come right in the end.

SECRETARY'S ANNUAL REPORT FOR 1920

R. A. MOORE, MADISON, WIS.

To members of the Wisconsin Experiment Association:

It is certainly a great pleasure to appear before this body for the twentieth time in the history of this organization to mention the work of the Association. The longevity of the Association together with its great accomplishments is certainly pleasing, and I desire to congratulate its members at this time on the continuity of the good work and united action on the part of its membership. Your association has gone on in a quiet way and has accomplished great results. One of the chief reasons of this is the fact that every member has worked for the general interest of the association. No jealousies have entered the minds of the members to prompt them to tear down what the association has already built. I think the brotherly feeling which has always existed between the members of this association is one of its strong features, and one that I take a deep pleasure in speaking of today. Without this hearty coöperation for the general uplift of the mighty cause we are engaged in we never could have succeeded.

MEMBERSHIP

The membership of the Wisconsin Experiment Association has held up well through the critical period which we have now passed. While the paid up membership at the close of the year amounted to 977 yet at the same time this only represents those whose dues were paid up to date, and not the entire membership. Our entire membership con-

sists of no less than 1,500, as dues are coming in from time to time from delinquent members.

It is certainly gratifying to see the membership hold up during these trying times. It shows the earnestness and interest that members of the association have in their organization.

The membership of the state association only represents a part of the membership of the whole organization. We now have 50 county associations, and all told there are no less than 2,000 members in these county associations.

Then also we have the Alfalfa Order of the Association with a membership of about 1,000, the Hemp Association with a membership of over 100, and the Sorghum Association with a membership of not less than 100. Altogether in round numbers we may say that this organization with its suborganizations has a membership of not less than 4,000 members all engaged in the great work of banishing the scrub seeds forever from our state and displacing them with the pedigreed seeds which have had years of patient work put upon them.

The Alfalfa Order, which is the first of its kind to be organized in connection with the Experiment Association, has accomplished a wonderful work. Members of this organization will have an opportunity of hearing of its accomplishments from its worthy secretary during the meeting.

The Hemp Association, which was the next to be organized under a similar plan, has accomplished a wonderful work during its four years of existance.



SUDAN GRASS

The Sorghum association, which is the latest unit to be added to the Experiment Association, is now getting under way and within the next two or three years we will hear of great accomplishments that have been made along the line of sorghum production. It seems that there is no line of effort which offers more promise just at the present time than pushing the great work in connection with sorghum. Our state has labored under a severe handicap on account of the many little plants, each of which has been putting up a different kind of sorghum syrup. It is perfectly clear that if we are going to succeed along the line of making this one of the standard crops of Wisconsin it will be by producing a uniform product that

can be sold as such to its customers. The old plan of getting what we might term "scrub sorghum" has had its run in our state and we will all look forward with pleasure to a new era which will be established as soon as the proper sorghum mills can be made available.

INTERNATIONAL HAY AND GRAIN SHOW

This year for the second time the Wisconsin Experiment Association through its membership has put forth its efforts in maintaining Wisconsin's reputation for good seeds at the International Hay and Grain Show. The high quality of Wisconsin seeds was everywhere noticeable, and the members secured a large number of winnings. The cash winnings of Wisconsin amounted to over \$1,000, being practically one-tenth of all the money put up. This is certainly gratifying and speaks well of the high quality of seeds which the membership is producing.

At this time I would like to mention the fact that the educational work carried on by the association is one of its greatest assets. This is extended to practically all classes of people. The educational trains run throughout the state in the past have been instrumental in promoting a feeling for the betterment of Wisconsin farm crops. The educational displays made at County Fairs, State Fairs, International Seed Shows and other shows have been instrumental in educating hundreds of thousands of people in the great work that we are performing.

In order to interest more widely the younger element the Wisconsin Experiment Association has put forth special efforts in putting in what is known as our Junior Department. The Junior Department of our annual grain shows from this on will be a permanent feature of our educational display. We feel very strongly that any money expended in the education of our youth is money well invested, and the hope of our association is in the education of our young people along our most worthy lines of effort. Not only in the displays of pure bred seeds made by the Junior people do we accomplish a great work, but the judging contests which are annually entered into by these young people create an interest which is far reaching. The leader of the Boys and Girls Clubs tells me that annually about 10,000 young people enter into the growing of pure bred corn. This large number is instrumental in placing upon the various farms pure bred seed corn, which will continue on the farm for many years to come. It is the forerunner of pure bred grains and sounds the death knell of scrub seeds upon such farms.

The acre contest work which has been inaugurated among the young people to work with the pure bred corn to bring them back good returns for their labors. There is one thing the association has always kept in view, and that is to encourage the young people in their efforts. Without some encouragement the interest would soon lag. However, with the method of disposing of the crops inaugurated through the Experiment Association good returns are in the hands of every one who enters the acre contest work.

GENERAL TWO ACRE CONTEST

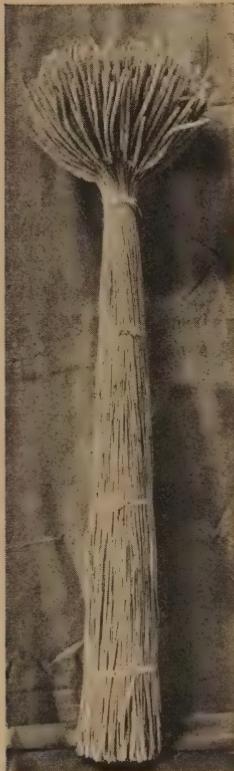
During the past two years the Experiment Association has taken an active part in promoting the larger field yields of corn. In 1919 over a hundred members entered the two acre contest and there were ten winners of prizes. The first prize winner secured the wonderful yield of 125 bushels of shelled corn to the acre. Many others were very close

to this point, showing the great yielding power that can be secured from Wisconsin pure bred corns when they are put under the best possible conditions. The general average of the state running through ten or twelve years would be approximately 40 bushels per acre, so we see that by putting our pure bred corn under good conditions we can secure three times the average amount of our state. Consequently we have wonderful opportunities in the way of increasing our general output.

The present year over a hundred entered the two acre contest work and again the magnificent yield of 138 bushels of shelled corn per acre was secured by the leading winner.

These lines of effort, together with the exhibiting at our annual grain show, constitute one of the great educational features of our organization. The winning of the prize is only a secondary matter but the fact that we have presented to the public the possibilities that can be secured through the growing and dissemination of pure bred seeds is something which is lasting. The educational work which we have been instrumental in extending to the young people of the state cannot be measured in dollars and cents and is one of the great works of this association. If the Experiment Association was just in the business of growing and selling seeds we would fall far short of the ideals we have in mind, and it would only be a work after all in the

direction of treasuring up the all-mighty dollar. But the Experiment Association has a motive which is way beyond the grasp for merely the money that may happen to be in the work of growing pure bred seeds, and that is the education of all members along the worthy line of effort of banishing scrub grains forever from the farms. The system inaugurated in the Wisconsin Experiment Association of sending the prize winning grains from the annual show to fairs and exhibitions in other places is one of the great educational activities of this organization.



TIMOTHY

MARKETING PURE BRED SEEDS

The Wisconsin Experiment Association, being a state organization supported largely by state funds, cannot directly advertise its seeds as no allowance can be drawn from the state treasury for advertising purposes. Consequently the association depends largely on its educational exhibits to advertise its seeds. When the interests of both the purchaser and grower are considered after all this seems to be the best policy. Let the grains speak for themselves and win their own way by superiority over other seeds. This will build a firm foundation and not a transient one, which is sometimes the case when resorting to advertising. The Wisconsin pure bred seeds are sold on their merit, and the association backs up its members in guaranteeing that the seed is in strict accord with samples that have been sent out. Our annual show, together with our seed grain trains and the shows that have been made in different states, have been instrumental in calling attention to the seeds to such an extent that annually about \$1,000,000 worth of the pure bred seeds are put on the market and find their way on to the farms of this and other states. Through the active work of the association we have been enabled to practically wipe out scrub seeds of various kinds. For instance, we now estimate 97% of all the barley grown in Wisconsin (and we grow about one-eighth of that grown in the United States) is the Wisconsin Pedigree barley, showing that all other varieties have practically been eliminated. The same thing is being worked out with corn. Nearly one-half of all the corn now grown in Wisconsin is of the Golden Glow and Silver King varieties. These varieties have made wonderful strides and have been instrumental in the promotion of higher yields throughout our state. Oats, wheat, rye and the cereals in general are making great headway, and Wisconsin will soon become known far and near as the "pure bred seed state." This is a worthy object to work for, and I know through our united efforts we will be able to accomplish this great task.

ANNUAL STATE FAIR

The State Fair has taken a deep interest in the work of the Experiment Association by providing for one of the greatest shows held in the state along the line of competitive work between counties and between various members of the association and farmers of the state. This competition has led to some of the finest exhibits put up in the United States, in the quality of pure bred seeds, annually at the State Fair. The Wisconsin Experiment Association has put forth its energetic efforts during its existence to encourage this line of effort.

A former President of our Association, C. P. Norgord, who now has the management of the State Fair, has always held high ideals in regard to the accomplishments of the Wisconsin Experiment Association, and has encouraged the dissemination of Wisconsin pure bred seeds from every view point. It has been through this kind of encouragement that we have been able to put in a large number of county exhibits

showing the pure bred seeds and other products that can be grown in the various counties of our state. The coming year greater efforts than ever will be put forth in order to put on these displays.

Our county units are urged to put forth every effort in the way of putting on displays at their local Fairs and then carrying such displays to the State Fair, or if the State Fair is held later in the season put the displays first at the State Fair and then take the display to the local Fair. The local agricultural associations will always lend a helping hand in this line of effort, and in this way the County Fair can be built up from an educational standpoint along the lines of pure bred seeds.

THE ANNUAL ASSOCIATION PURE BRED SEED SHOW

It is so arranged that the annual association show is held after the other shows have been held in our state, and consequently receives the benefit of much of the information which has been gained from the other shows. Also a portion at least of the seed that has been carefully selected for such other shows, can be reserved for our annual exhibition. This will enable the exhibitors to get their samples selected well in advance of our state show and have an opportunity of having only the best for display. One of the chief characteristics of the association show is the fact that no poor samples are ever noticeable. The Wisconsin Experiment Association undoubtedly shows up the highest grade show from the seed grain standpoint held in the United States if not in the entire world, so consequently it is a great privilege for any farmer or seedsmen to have an opportunity of visiting one of the association shows. Many professors from other colleges have pointed out the great educational value of such show, and this has been one of the factors which has prompted the association in holding this show in various parts of the state. It would not seem fair that this great show should be always held at Madison as there were other cities in the state that should have the privilege of having a show of this character so that a large number of people in near by communities would have an opportunity of viewing this show to ascertain what has been accomplished along the lines of breeding and dissemination of pure bred seeds.

SEED GRAIN INSPECTION

Through years of patient endeavor the Wisconsin Experiment Association has built up a system of inspection which we feel is thoroughly competent to take care of the pure bred seed grain work. The aim is as far as possible to make two inspections, one inspection in the field and another of the seeds when they are ready for shipment. Many of our older growers who have been in the work for a series of years need very little if any attention. However, our representatives visit them as it is materially helpful to be able to place them on the inspected list.

The County Agents have been most valuable in helping the Experiment Association with these inspections. In this way a great deal

of seed which has become mixed and in some way contaminated is prevented from being offered as seed on the market. The inspection trip is also educational for the seed grain grower, and the inspector makes it a point to be of as much value to the seed grain grower as possible during his visit. We have found that the seed grain grower looks forward with considerable pleasure to having the seed inspector visit him. Our seed grain growers are striving to build up a great reputation for Wisconsin seeds, and consequently if anything is wrong with their seeds they are overly anxious to know how they can correct the same.

I feel with this safeguard, and the thorough honesty and integrity which has been the motto of the members of the Association there is no reason why Wisconsin pure bred seeds cannot hold the reputation they have held in the past with any seeds produced in the world.



RED TOP

ity of seed corn, and in my estimation it is only going to be a matter of how much we can put out in the near future as parties will stand ready to take all we can produce and cure. It is gratifying certainly to note how the yields of corn in Wisconsin have gradually forged to the front until we have been able to take our place side by side with the great corn states of America in the yield of corn per acre. This has been brought about from the fact we have disseminated nothing but pure bred corn varieties upon which there has been ten and even fifteen years' patient work placed. The breeding together with the practice of kiln drying the seed has given great prestige to our seed corn.

THE FIRE-DRYING OF SEED CORN

One of the things that has built up the great reputation for Wisconsin seed corn has been the fire-drying of the seed. Practically all of the corn put up by members of the association is fire dried. Through this system of driving the moisture out of the corn in a rational way it has left within it all the energy and vitality which it ever possessed. After proper curing, the corn can be stored away in any dry building and will retain this vigor and vitality providing it is not subjected to outside drafts of air. The eastern states are now coming to us and purchasing seed corn generously. They find from experience that it pays them to secure this high qual-

SEED COMPANIES IN COÖOPERATION WITH THE EXPERIMENT ASSN.

The seed companies are worthy of special commendation at this time for their kind coöperation with our seed growers' organization. Nearly every seed firm in the state, and a great many outside the state depend annually upon securing a large portion of their seed from members of the Association. While they have paid members of our association more than they would necessarily have to pay for seed yet at the same time they have felt that by getting a product of high quality such as is put out by members of the association they could charge a better figure for their seed and consequently could pay a higher price for it. This coöperation has not extended alone to helping in the selling of the seed but from time to time we have received encouragement in the way of cash donations and words of encouragement to help in this great process of producing the best seeds in the world. I feel sure that the association feels like extending its sincere thanks to these seedsmen who have stood valiantly behind the association and encouraged them in every possible way in the production of this high class seed.

SEED PEDDLERS

A brief mention was made in the last annual report of the practice of seed peddlers driving through the country with their beautiful pictures of fields of grain and canvassing the various farmers for varieties of grain for which great claims are made. Our advice to all members of the association and farmers in general is to steer clear of men who are asking exorbitant figures for seed grains and claiming wonderful performances for such seeds. Our farmers should not be wheedled into purchasing things from unknown people who are only able to back up their statements with testimonials that we know very little about. All farmers will be able to secure the genuine pedigreed seeds that have had twenty years' patient work put upon them for less than one-half of what they would have to pay for possibly scrub seeds from the traveling salesman. The advice of the secretary is to steer clear of such people and purchase seeds from responsible parties, either directly from members of the Experiment Association or seed companies who are listing the pedigreed seeds.

CORRESPONDENCE

There is one great weakness that the Secretary wishes to speak of at the present time, and that is the method of correspondence pursued. Any one who is building up a trade must be careful about answering letters promptly. This is not always the case, and purchasers who have acted in accordance with directions from the main office have later reported that they had written two or three times to the party mentioned and could receive no answer. Now it is not only one or two instances but it is several hundred instances we have of that kind annually. This shows a woeful lack of proper business methods. In some instances the Secretary has written the parties who were accused of not answering letters and received the prompt reply that they had

already sold their seeds and did not desire to waste time and postage because they had no more seeds to sell. Of course it may seem a great loss of time and postage to answer these letters that come in after the seed is disposed of but at the same time in the long run it will pay. If a member is courteous to prospective purchasers, and will write a letter explaining the fact that he has no more seed to sell but expects to be in the business the following year with larger quantities, he will gradually build up a force which will purchase of him in future years. If he does not answer the chances are the party will never come to him again for seed. One of the things that has built up the Experiment Association to its present status has been the kind of coöperation and feeling one member of the association has for another. I would suggest that all members of the association keep as closely in touch with other members of the association as possible. When a party's seed is exhausted and he has further call it certainly shows a kindly spirit for him to refer the party to one of his brother members. This not only aids the association as a whole in disposing of its seed but will also put the party under obligation to the seed grower who turned orders his way. This is certainly commendable, and your Secretary knows of many members of the Association that are making a practice of doing that each year.

All members of the association should be fitted out with proper letter heads, post cards, writing desks and everything as convenient as possible. This is considered a part of the business equipment of the person who is the grower of pure bred seeds. Where everything is arranged conveniently the grower will not find that it is such a hardship after all to attend to the correspondence and it is a systematic arrangement that should be required of all well regulated business.

ADVERTISING

The Wisconsin Experiment Association, being a state association cannot draw funds from the state for advertising purposes. However, this does not mean that members of the association cannot do more or less advertising themselves. One of the chief objects of the members of the association is to let people know that they have pure bred seeds for sale. Often a little article written in a paper about some member's farm crop would bring to him many sales. Our editors are always pleased to print matter of news even though it carries some advertising to the grower or writer. It is also well to put a little ad in your county papers. It will not cost much, and will let the people in your immediate county know who has the pure bred seeds for sale. A short ad in the agricultural papers also helps out wonderfully in calling attention to the supply of seeds on hand. As the quantity of seeds grow from year to year more or less advertising will have to be used in order to help the association in disposing of its crop. It is really wonderful how other states and countries have come to our association for seed, and I have no doubt but what the seed listed this year will be rapidly sold. However, I feel that members of the association, with

better conditions for hired help the coming year, can put in a larger acreage of seed than ever before, and we will have to expand our method of marketing very much.

A method which has been pursued for some years and is gaining in its importance is the method of the Secretary of the county association listing the seeds under his name as well as having the individuals listed. This will enable large orders to be handled through the Secretary of the county association as such secretary can list all of the seeds which his individual growers have grown under his own name, and parties who desire to get large quantities as a rule will correspond with a party who has a large quantity listed. Consequently those parties who want car load lots will go to the Secretary of the county associations.

Notwithstanding the fact our seed circular has only been out a short time yet the calls are coming in very fast and I do not apprehend there will be any difficulty in disposing of our present crop, but my remarks will more generally apply to next year when we hope to have three or four times as much pure bred seed to list as we have this year.

FIELD PEAS

For many years Wisconsin had the reputation of furnishing the finest soup peas in the world. Foreign countries came to us for our crop, and great quantities of the peas grown in Wisconsin found their way to France, Holland, Germany, and other countries. The large cities depended quite largely on Wisconsin fancy field peas for soup peas. Later our farmers instead of sticking to their original varieties were induced to try out new varieties, and in many instances would get the old varieties mixed so that it is not uncommon at the present time to go on to a farm and find at least four or five distinct varieties of peas growing in the same field. As soon as these mixed peas got on to the market, and it was found they were not uniform in size or cooking quality, our peas lost favor and we have now lost the prestige which we held for so many years. Peas are almost a drug on the market, and the price is forced to what we would commonly call the general feeding price of grains. If we are to receive the price that we have received in former years we have got to work hard to win back this lost popularity of our peas. This can only be done by united effort on the part of members of the association and farmers in general. Some exceedingly fine field peas have been produced by Professor Delwiche on the Branch Station Farms, and the Experiment Association has been doing everything in its power to help in the rapid dissemination of those peas. Last year several hundred bushels of these peas were secured by the Experiment Association and were placed in charge of the County Agents in the various counties to which they were sent. The plan was to give four bushels to some one farmer in the county that would grow them and return four bushels of seed again to the County Agent, who could put them with some other party and try and sell his surplus seed to other farmers in the county. Through this method we are going to be able to put in pure bred seed

centers in several places in each county, and gradually get the people to give up growing their mixed stock of peas. These peas have not only been bred from a single plant, but plants have been selected known for their vigor, quality of peas, and high yielding properties. As soon as we can get to growing several thousand bushels, and can put them on the market, I feel sure that we will be able to regain the market which we have now lost. It will require the energetic efforts of every member of the Association to help bring this about, and I trust we will have your hearty coöperation this year. We have listed about 2,000 bushels of these peas, and any one who is especially interested in spreading the good work can procure these peas at a very reasonable rate and thus help the good work along. We hope within the next two or three years to banish forever the scrub peas from this state and grow only the pedigreed varieties.

NAMING THE COUNTY ORDERS

In our Executive Committee meeting last year the advisability of changing the name of the County Orders was discussed. It seemed to be the prevailing opinion that merely the name "County Order of Experiment Association" would not always carry with it a true sense of the work of the association. Consequently a movement was put on foot to have the name changed to the County Pure Bred Seed Growers Association, using the words "County Order" in a secondary position but giving them sufficient prominence so that parties would know that they were connected up with the big state association. Nearly all the County Orders have made this change, and the name "County Pure Bred Seed Growers Association" stands out prominently on their letter heads. Immediately underneath this headline in finer print will be the words "County Order of Experiment Association," thus carrying the two principal ideas which we desire to give to the public,—first,—that the organization is a pure bred seed growers organization, and secondly,—that it is connected up with the big state association.

Another matter which was discussed at some length and reported to a committee which has the matter under discussion at the present time is the fact that we have at the present time a great many of our good seed grain growers that are not eligible to become regular members of the Experiment Association.

Twenty years ago, at the time the constitution was drafted, in many cases farmers were not in a position to grow pure bred seeds and put them on the market as seeds. It required educational work, and consequently the clause was put into the constitution providing that no one except those who had taken a course in our College of Agriculture or some other College of Agriculture could become a member of the association. The object we had in mind at that time was to have no one in the association who had not been instructed in regard to the importance of producing pure bred seed and putting nothing out but what was A. No. 1 quality. Also we wanted every person to be an expert along that line of effort. Hence the clause in the constitution. This worked out admirably and it was the means of making the Wis-

consin Experiment Association the big seed grain association of the world. If we had gotten a large number of unskilled seed grain growers in our Association at the start we would not now be placing seed grains in all parts of the world. The forward step taken by the association caused many of our farmers to emulate these seed growers, and a great many have been instrumental in making a careful study of the work and have gone into the seed grain business and now are just as careful about putting out good seeds as the regular state members of the association. Consequently there seems to be a feeling that the association would be perfectly safe, and it is no more than just, to open the doors of the state association to faithful members of that kind. Consequently there is a general feeling that a plan should be presented that will take in faithful members of the county associations.

STATE ASSOCIATION FEES

Another matter which has been discussed at considerable length the past year, and will come up for ratification at the business meeting is the matter of fees. For nineteen years the membership fee to the Experiment Association has been 50c. No doubt the members of the Wisconsin Experiment Association have received more direct benefit than members of any other association in the state. Consequently there seems to be a feeling that owing to the fact practically all other associations are charging a higher fee the members of the Wisconsin Experiment Association would not object to a popular fee of \$1.00 per year. The funds could be used to exceedingly good advantage and the members would receive more benefits by some educational fund that could be expended for the general welfare of the whole organization. It seems at this time that it would be a wise thing to do this so that we could show the state that the members themselves were supporting their association.

ORGANIZATION OF THE SOY BEAN ORDER

G. M. BRIGGS, *Secretary*

To determine the best varieties and best cultural method, and to disseminate information regarding the value and variety of uses of the soy bean in Wisconsin agriculture is the purpose of the Soy Bean Order, the youngest of the Wisconsin Experiment Association family.

This association of soy bean growers which recently formed has for its purpose not only the encouragement of growing soy beans but the standardization of the crop both as to varieties and as to better methods of distribution. Growers report that there are at the present time 40 or more varieties grown in different parts of the United States, which are being offered for sale in Wisconsin markets. The officers of the association plan to eliminate many of these varieties by putting on educational campaigns which will tell the farmers of the state the advantages of certain varieties over the others.

Wisconsin offers splendid opportunity for maturing soy beans on the lighter soils. This crop can be used to splendid advantage either as silage or as hay. There is no question but what thousands of acres will be devoted to soy bean production when the farmers of the state fully appreciate the value and importance of the crop.

The officers of the association are: President, P. W. Jones, Black River Falls; Vice President, V. P. Atwell, Stevens Point; Secretary, G. M. Briggs, Madison. The other members of the board of directors are W. J. Rogan, Mauston; E. H. Thompson, Webster; W. W. Clark, Stevens Point; Charles Ristow, Black River Falls; James Lacey, Green Lake, and E. J. Delwiche, Green Bay.



A FIELD OF EARLY BLACK SOY BEANS. A. G. COX, OSSEO.

SOY BEAN LESSONS LEARNED DURING THE 1920 SEASON

P. W. JONES, BLACK RIVER FALLS

Mr. Chairman:

As a usual thing it takes a marked success to get a place on a program of this sort but in my case it is a disastrous failure that is the cause of my being before you. The failure was so complete that it evidently resulted in Mr. Briggs thinking it might be a good idea to hold me up as a miserable example of "How Not to Raise Soy Beans." He softened the blow a little by giving the talk a fine sounding title, "Soy bean lessons learned from the season of 1920," but the fact remains that what he expects of me is to get up here and tell you how I planted fifteen acres of beans at a cost of some three hundred dollars and then had no beans to harvest. While it is unpleasant to discuss our failures, I am glad of the opportunity to get my experience before this meeting and on the records of the Experiment Association in hopes that it will prevent someone else from making a similar blunder.

My soy bean experience covers six or seven years and before this past season has always been quite satisfactory. Last spring we put beans in forty acres of corn and also put in 55 acres for seed and hay. After the corn was in, we had left a ton and a half of high grade commercial fertilizer, 2-12-2. We have a nine foot grain drill which sows fertilizer from a separate hopper right in the drill row with the seed and it looked to me as though this seventy dollars worth of fertilizer used on about fifteen acres of beans ought to make me rich. I am rather of a high priced man when it comes to hard work but the prospective profits looked so good to me that I chased the hired man off the drill and ran it myself so as to be sure that it was done right. The beans were drilled in 28 inches apart and 185 pounds of fertilizer was used to the acre—this would be equivalent to the 125 pounds generally drilled in with corn on rows 42 inches apart. After the beans were sowed and the hired man had rolled them, I got out my pencil to figure up what I ought to ask an acre for the crop if any one came along wanting to buy. Twenty-five bushels at \$8.00 made \$200—that seemed a little high but as my beans had paid out better than a hundred dollars an acre in 1919 *without* fertilizer I decided on \$150.00 an acre as about the right price to ask. Fifteen acres at \$150.00 makes \$2,250. Perhaps the price would be lower so I decided on two thousand dollars as the right price to ask if the chap could use so many beans. Say—do you know that I never cut a bean on that fifteen acres—the blasted fertilizer killed the germs and only a few of the beans came out of the ground. After I got off my high horse and down to earth, it took me several days to figure out what had happened. On the lightest soil the loss was total while on the soil with considerable humus present, there was a ten to fifteen percent stand. On the low portions of the field, the stand was considerably

better but even there the plants were not healthy. The stand on the unfertilized portion of the field with the same seed was practically perfect and the beans made as good a crop as you would expect with the very unfavorable season that we had.

The lesson was a costly one—all or more than the three hundred dollars referred to as the cost of my place on the program. It convinced me that commercial fertilizer is never of much value in growing soy beans and that under certain conditions it can be exceedingly disastrous to the germination of the seed. While it is not pleasant to discuss our failures, I am glad to get this matter before this meeting and on the records of our Experiment Association in hopes that it will prevent someone else from a similar mistake and a similar loss.

Two other lessons from my 1920 experience presented very briefly. The first that a grain drill is not as economical a machine to plant with as is a planter, where the rows are to be wide enough apart for cultivation, as they always should be. My corn planter narrows to 28 inches and will cover nearly as much ground in a day as the nine foot drill with lots less horse power, and will do very much better work. Again, my experience last season in cutting soy beans with a grain binder was so satisfactory from a cost standpoint as well as a quality standpoint, that I shall use no other implement in the future when conditions permit the use of the binder.

SOY BEAN HARVESTING METHODS

H. W. ALBERTZ

With the ever increasing importance of soy beans as a primary crop on light soils and as a substitute for clover which winter killed on the heavier soils, it became necessary to grow larger amounts of seed and to harvest the crop with as little loss as possible. The cost of farm labor is so high that the old method of pulling the plants by hand is out of the question.

HARVESTING MACHINERY NEEDED

Wherever several acres of soy beans are grown for seed, machinery for harvesting must be used in order to make the crop profitable. The type of machine used varies with the variety of beans planted and with the prevailing fall weather conditions in the various sections of the country. In North Carolina and other regions of the South a special combined soy bean harvester and thresher is used. The principal feature of the harvester is the revolving beater, which threshes the beans from the standing stalks in the field. The beaters of the various types of machines have different numbers of fingers. In some, the beaters revolve parallel to the row while in others they do so at right angles to the row. In the manufacture of some of the harvesters mowing machine wheels are used while with others, the harvesters are mounted on ordinary cart wheels. Some have their beaters chain driven while others are connected up by gears.

"The bean harvester is a two wheeled machine which straddles the row and is drawn by two horses. As the machine moves over the plants, four rows of rapidly revolving arms shatter the beans into a receptacle in the rear. For the successful operation of this harvester the crop must be on ridges elevated not less than six to eight inches above the water furrow, and the plants should have shed their leaves. Under favorable conditions, two men and two horses can harvest an acre of soy beans in two hours by this method. While there is a slight waste with this harvester, it is more than compensated for by the saving of time." (From the North Carolina Extension Circular No. 6.)

The machine described above is rather crude and not well suited for Wisconsin conditions. It wastes nearly half of the beans and owing to long distance between the wheels the rows must be planted farther apart than will give us our maximum yields. The principle of the machine seems to indicate that a successful harvester can be made which will require slightly heavier draft.

Another disadvantage of harvesting and threshing the crop in the same operation is that our late fall weather is frequently very wet and the beans do not thresh very easily. Many of the beans remain in the pod and are lost in the straw.

Letters from many farmers indicate that the bean straw is too valuable to be wasted. The machine described above leaves the straw in the field and, therefore, it must be remodeled when the straw is intended to be used for feed.

HARVESTING WITH MOWER AND REAPER

Harvesting with mower has been quite successful in some sections of the state, the only difficulty being that the horses tramp on the newly cut plants and further operations of raking and handling shatter the beans. A bunching attachment on a mower causes less loss. The reaper handles the beans with greater success than the mower. It places the plants in small piles which can be hauled and stacked.

HARVESTING WITH COMMON GRAIN BINDER

The grain binder has proved very successful especially with the taller varieties. Care should be taken to harvest the plants on the green side. If left until mature, the beans will shatter badly. The plants should be allowed to stand until nearly all leaves have fallen off and the pods have begun to dry. If cut while the leaves are still retained the inside of the bundle will not dry out rapidly. On the other hand if allowed to stand a few days after the leaves have fallen shattering will result. Under such conditions the best plan is to cut while damp in the morning and evening and avoid cutting during the middle of the day.

When fairly dry the bundles may be placed in shocks of 8 or 10 bundles. Caps are not necessary. When shocked in this manner they remain in the field until a convenient time for threshing. When shocked properly very little damage from rain will result.



BUNDLE MATURE SOY BEANS

BUNDLE SOY BEAN HAY

POINTERS ON THRESHING SOY BEANS

C. S. RISTOW, BLACK RIVER FALLS

Threshing Soy Beans has been, and is quite a problem for the growers today. Some say that a grain separator can be used successfully by running the cylinder half speed and the rest of the machine full speed. This requires the changing of many belts which is a considerable expense. Others claim that a corn shredder can be used with good results.

What we want is to get practically all the beans reasonably clean and uncracked. To do this we will have to shuck them by hand or flail them, but this is too slow a process and too expensive. I have used a small navy bean thresher with fairly good results but it is too slow and there is some waste. I have also used a grain separator but it gave very poor results. About one-third of the beans were cracked and a considerable amount of them were blown over and there was also a lot of dirt left in them. I have finally come to the conclusion that if we want to thresh Soy Beans successfully we must use a Soy Bean thresher and do the job right, as we do with other crops. We do not use a corn shredder to thresh our grain nor a grain separator to shred corn, so why use a grain thresher to thresh Soy Beans.

There are Soy Bean Threshers on the market now that can be bought for from seven to eight hundred dollars. They have self-feeders, straw carriers and elevators. With this kind of a machine I think we can obtain good results.

PROGRESS OF THE SORGHUM SYRUP INDUSTRY

A. H. WRIGHT, MADISON

Climate, soil, and methods of farming in Wisconsin are all suited to the development of a commercial sorghum industry. As soon as factories are so equipped that hand labor and waste can be greatly reduced, wider opportunities in the sorghum business are open to both the grower and the manufacturer of the syrup.

The demand for Wisconsin syrup is always good. Only enough is produced to meet the local demand in the community where it is made, and the syrup cannot be bought in the grocery store or any other general market. Waste in growing, handling, and manufacturing, and the necessity for much hand labor, have kept the sorghum business operating on a small scale to supply local demands. At the same time, the small mill, which supplies these demands, fills a definite need in the community and will continue to operate after the industry is organized on a commercial scale.

HAND LABOR REQUIRED BY PRESENT METHODS

Present methods of handling sorghum require a great deal of hand labor because the mills established in this state are unable to handle the sorghum unless it is topped and stripped before it is delivered to the mill. The average farmer, consequently, grows only $\frac{1}{8}$ to $\frac{1}{2}$ acre, enough to supply the requirements of his family.

Since each farmer grows only a small "patch," little attention has been given to labor-saving methods. Good, well-drained soil is selected, usually in the corner or at one side of a field of corn. Sorghum is usually planted by hand, the rows the same distance apart as corn rows. The crop is cultivated in the same manner as corn, with the exception that it is often necessary to go over the sorghum at least once with the hoe in order to keep the weeds under control.

In harvesting sorghum the leaves are usually removed first. They are stripped off by hand and allowed to fall to the ground. After the plants are stripped and while the cane is still standing, the heads or seed tops are cut off and are either thrown in piles or allowed to fall to the ground. In some cases the plants are cut first and headed afterwards, which results in leaving the heads practically all in one place. In either case the work is done by hand.

SORGHUM MILLS NECESSARY

Where sorghum is grown for syrup there must be mills to manufacture the syrup. Hauling to the mill is one of the largest items of expense. It is important, therefore, that sorghum be grown within five miles of the mill. Between 100 and 150 sorghum syrup mills operated in Wisconsin in 1919. The mills vary from small horse-power outfits with a capacity of 50 gallons of syrup a day to the large steam power plants with a capacity of 500 gallons or more a day.

These local mills grind the sorghum stalks and boil the juice down to syrup for the grower. They charged in 1918 and 1919 from 40 cents to 60 cents a gallon for making, or, in case they manufactured on shares, they kept one-third the syrup as payment.

PRESENT METHODS WASTEFUL

As a means of furnishing a supply of syrup to people who live in the neighborhood, the present method of growing sorghum and making syrup is satisfactory. As a small community industry it is of considerable importance, but from a commercial standpoint it is a troublesome and wasteful business, requiring too much time and hand labor. Hand planting, hand hoeing, and hand stripping, heading and binding are time-and labor-wasting. In addition the leaves are usually wasted and the seed is not used to advantage. Even when the field is pastured off there is a high percentage of loss in the leaves and heads.

Of the harvested crop the stripped stalks are practically the only product. When these stalks are ground in the average local mill, less than 50 per cent of the juice is extracted. The crushed stalks, called

bagasse, are generally left to rot where they are piled. In other words, out of the whole crop of sorghum, practically everything is lost except 50 per cent of the juice.

MAKING SORGHUM A COMMERCIAL INDUSTRY

Since the sorghum business has been found profitable in spite of the waste in production, it would surely have great possibilities if the hand labor and waste could be avoided. Methods are now being used which accomplish these results. Equipment for manufacturing sorghum syrup can be obtained which not only rids the grower of most of the hand labor in the field, but which also makes use of 90 per cent of the total crop. Where such equipment is used, sorghum is grown in the same way as corn, is harvested with a corn binder, and delivered to the syrup mill just as corn is delivered to a silage cutter. The mill to a silage cutter. The mill removes the heads and separates the leaves from the stalks. The seed is dried and threshed and commands a ready market. The leaves may be run directly into silos and when so handled they make an excellent quality of silage. The stalks are crushed with high-power mills which extract 75 per cent or more of the juice. The stalks from which the juice has been pressed are used for fuel, silage, or manure. By using this new method of handling sorghum, practically nothing is lost.

That this method of handling is a success was proved in the operation of a few factories in the United States in 1919. The Agronomy Department, after making careful investigation of the methods in these mills and the possibilities of sorghum in Wisconsin, consider that sorghum is a promising commercial industry.

THE 1921 GRAIN SHOW

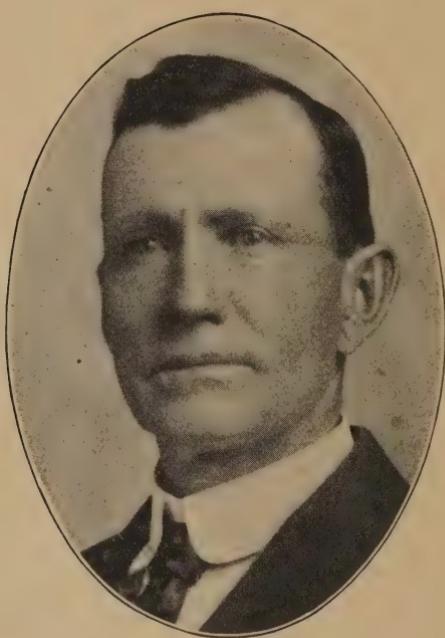
For the first time in the history of the Experiment Association the Annual Pure Bred Grain Show was held away from Madison. The La Crosse County Pure Bred Seed Growers Association and the city of La Crosse issued so urgent and attractive an invitation that the Association accepted their offer, and the week-end of January 24-29 was given over to the Show and Winter Carnival. The novelty and variety of entertainment were without precedent in the annals of the Show, as was the size of the Show itself. The number of exhibits was more than double that of the largest previous show and more than twice as many exhibitors took part. A new and attractive feature were the artistic decorations in the form of a model farm done in growing plants and moss, with miniature farm buildings, live stock, etc., and the Corn Palace, built by the Salzer Seed Company. Pictures of the show may be found elsewhere in the report.



SHEAF AND THRESHED GRAIN DISPLAY ROOM

LA CROSSE TAKES THE COUNTY ORDER TROPHY

The tables were reversed this year when the La Crosse County Order took the Experiment Association trophy which is awarded to the county order scoring the highest number of points at the State Grain Show. Brown county, which won the trophy last year, was second. The La Crosse exhibitors, under the leadership of county agent W. E. Spreiter and county order secretary L. C. Hatch, left no stone unturned to demonstrate to the grain show visitors that La Crosse County is a power of first magnitude in quality and quantity of grain and forage production. The scores in the first five counties are: La Crosse 260; Brown, 177; Shawano, 115; Jefferson, 101.



WILLIAM BARTLETT

Memorial

WILLIAM BARTLETT

It is with deep sorrow that we are obliged to chronicle from time to time the departure of our loyal members of the Wisconsin Experiment Association, and especially those who have worked energetically and industriously to build up the great organization with which we are connected. We feel very keenly the departure of William Bartlett, friend and member of the association and President of the Barron County Order of the association for many years. All who knew him feel this loss as he was a leader in the great work of agriculture; a broad minded man who had visions of what pure bred seed and pure bred live stock meant to the great agricultural state of Wisconsin. Bold, energetic, and fearless, he took upon himself the task of turning a piece of Wisconsin undeveloped land into a beauty spot, which he named the Pine Grove Guernsey Farm, and placing thereon convenient structures which stand out prominently as one of Wisconsin's most comfortable fine farm homes. No man in the state took a deeper interest in agricultural affairs, and the manner in which he departed as significant of his earnestness and faith in the great cause in which he worked. No obstacle was too great to dampen his ardor or enthusiasm, and he died as he lived, with his hand upon the plow, devoted to and guiding the righteous cause of agriculture. The Wisconsin Experiment Association severely feels his loss and extends the sincere sympathy of all its members to his sorrowing wife and family.



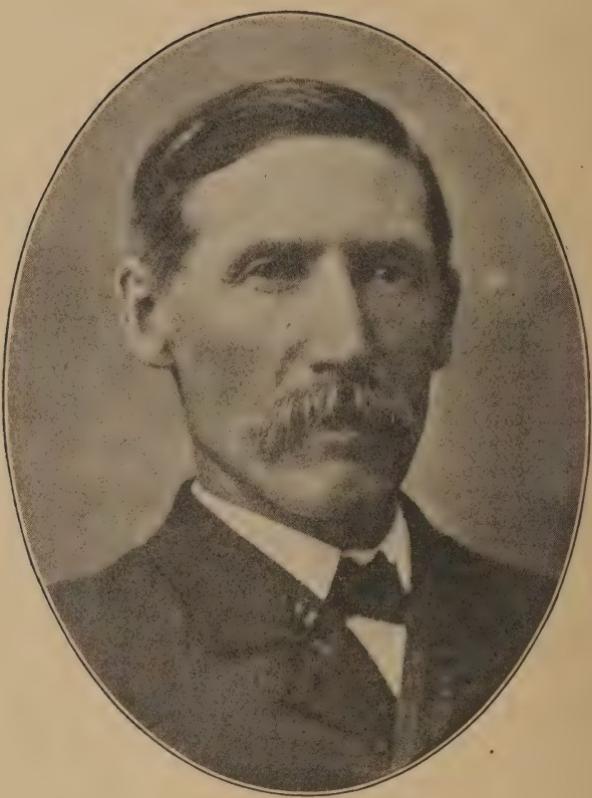
W. E. CHATTERTON

Memorial

W. E. CHATTERTON

We record with deep regret the departure of one of our co-workers who, from 1912 until the time of his death, was a faithful and loyal member of our association. William Eric Chatterton was born January 10, 1890, and died March 18, 1920, of heart failure. He was graduated from the Belleville high school in 1908 and entered the agricultural college at Madison in 1910, graduating in 1912. He was a great lover of nature and specialized in horticulture. Since graduation he helped run the home farm.

The Wisconsin Experiment Association has lost one of its faithful members, and extends its sincere sympathies to the sorrowing relatives.



EDWARD DUFFEY

Memorial

EDWARD DUFFEY

We learn with sorrow of the departure of Mr. Edward Duffey of Highland, who has been an active and faithful member of the Association for many years. Mr. Duffey was born in Brooklyn, New York, in 1848. The same year the family came to Wisconsin, where he spent the rest of his long and useful life. He was characterized by a mild and conciliatory temperament, and yet possessed an uncompromising firmness in the right. He was active in promoting the welfare of his community, and his faith in the work of the Association and in progressive farming is shown by the fact that every bit of grain grown on his farm came originally from the Experiment Station.

Mr. Duffey leaves behind him the inspiration of a long and useful life, and his many friends of the Experiment Association count it a privilege to have been associated with him in this great work.

JUNIOR DEPARTMENT OF THE GRAIN SHOW

The increasing interest of the boys and girls who are enrolled in the club work was demonstrated by the large number of fine corn and potato samples sent in to compete for prizes in the Junior Department. That the quality of the exhibits was on a high plane is shown by the fact that ten of the corn samples had been previously shown at the National Corn Club Contest held in connection with the Louisiana State Fair, and had won first and third premiums. The coming generation of exhibitors is showing evidence of their ability to keep pace with the progress of the past and to advance the standard of excellence in yield and quality of the farm crops. The winnings in the Junior classes are as follows:

Corn Exhibits

Ten Ears Silver King (Wis. No. 7)

- 1st. Reuben Heller, La Crosse
- 2nd. Vance Markle, La Crosse
- 3rd. Archie Peters, La Crosse
- 4th. Mildred Wetter, Zenda
- 5th. Brayton Hogan, Clinton Junction

Ten Ears Golden Glow (Wis. No. 12)

- 1st. Gordon Kivlin, Oregon
- 2nd. Albert Widner, Oshkosh
- 3rd. Roland Sandman, Holmen
- 4th. Walter Wood, Oshkosh
- 5th. Willard Sjolander, Holmen

Ten Ears Early Yellow Dent (Wis. No. 8)

- 1st. Oscar Berkseth, Glenwood City

Ten Ears Any Other Variety

- 1st. T. Hosken, Jr., North Redwood, Minn.

Single Ear Dent Corn

- 1st. Orvil Olson, Holmen
- 2nd. Mildred Wetter, Zenda
- 3rd. Ivar Barnaal, Sacred Heart, Minn.
- 4th. T. Hosken, Jr., North Redwood, Minn.
- 5th. Archie Peters, La Crosse

Potato Exhibits

Peck Late Potatoes

- 1st. Archie Peters, Jr., La Crosse
- 2nd. Edwin Carlson, Bayceville
- 3rd. Reuben Heller, La Crosse
- 4th. Helen Dufik, Wishicat

Peck Late Potatoes

- 1st. Douglas Matters, Gilman
- 2nd. Archie Peters, Jr., La Crosse
- 3rd. Victor Wolf, La Crosse
- 4th. Reuben Heller, La Crosse
- 5th. Lloyd Jacka, Cobb

Corn Club—Individual Member Contest

- 1st. Mildred Wetter, Zenda
 2nd. Oscar Berkseth, Glenwood City
 3rd. Gordon Kivlin, Oregon
 4th. Albert Schwartz, Oshkosh
 5th. Albert Widmer, Oshkosh
 6th. Roland Sandmen, Holmen
 7th. Maurice Young, Oshkosh
 8th. Vance E. Markle, La Crosse
 9th. Willard Sjolander, Holmen
 10th. Leonard Jolvestad, Holmen

Corn Club Contest

Silver Trophy—Oshkosh Corn Club

JUNIOR CORN JUDGING CONTEST

HELD AT LA CROSSE, JAN. 29, 1921

Viroqua High School won the silver trophy for the highest team score at the third junior corn judging contest, with a score of 225.2 points out of a possible 300. The team consisted of Earl Grover, Guy Theige, and Edward Wrobel, and was coached by Mr. R. A. Palmer, who is in charge of the Agricultural Department. The banner for second place was won by Maiden Rock High School with a score of



VIROQUA CORN JUDGING TEAM

Left to right: Earl Groves, Edward Wrobel, R. A. Power (coach), Sherman Sperry, Guy Thlege.

218.7 points. Helen Howe of the Maiden Rock team has the distinction of being the only girl competitor.

Forest Markle of La Crosse carried away the individual honors with a score of 84.5 out of a possible 100, and Earl Grover of Viroqua was second with 90.9.

The contestants showed excellent training and good judgment in their work of placing the samples and identifying varieties, and much credit is due the coaches who trained the teams and individuals for the contest. The ranking of the prize winning teams and individuals is as follows:

Teams—

1. Viroqua, Score 225.2.....	Silver Cup
2. Maiden Rock, Score 218.7.....	Banner
3. Oshkosh, Score 204.7.....	Honorable Mention

Individuals—

Score.

1. Forest Markle.....La Crosse—84.5	\$8.00
2. Earl GroverViroqua—80.9	6.00
3. Guy TheigeViroqua—76.9	4.00
4. Melvin Fortney ...Menomonie—75.4	3.00
5. Helen Howe.....Maiden Rock—74.9	2.00
6. Albert SchwartzOshkosh—74.4	1.00
7. Henry Julian.....Maiden Rock—71.9	10 lbs. pure bred seed corn
8. Richard Herbison.Maiden Rock—71.9	10 lbs. pure bred seed corn
9. Leonard Tolstad.....Holmen—70.4	10 lbs. pure bred seed corn
10. La Verne Taylor.....Oshkosh—69.5	10 lbs. pure bred seed corn

The Marinette County School of Agriculture, Waterloo High School, and Viroqua High School each have one contest to its credit. The cup must be won twice in succession, or three times to become the permanent possession of the winning school or club.

THE 1922 STATE GRAIN SHOW

The last Grain Show and Annual Meeting were so well entertained at La Crosse that the Association has decided to go visiting again next year. We have accepted the invitation of Green Bay and the Brown County Pure Bred Seed Growers Association to meet and hold the Show in the city of Green Bay the latter part of January.

Brown County has always been one of the strongest contenders at the Grain Show, and under the leadership of County Agent, J. N. Kavanaugh, the Brown County Pure Bred Seed Growers Association has become a strong and active organization. They are planning to set a new record in the size and quality of the State Grain Show, and are already getting the plans under way.

THE TWO ACRE CORN YIELD CONTEST

The progress of corn growing in Wisconsin is marked each year by a wider dissemination of the Pure Bred Varieties, a constant advancement northward of the corn belt, and by records of larger yields. The honors this year go to Jacobson Brothers, Green Bay, who grew 138.2

bushels of Golden Glow corn per acre. It speaks well for the ability of the corn growers of Brown County that this is the second season that they have captured first place in the contest. The honors were pretty well distributed, Dane, La Crosse, and Oconto counties also exceeding the one hundred bushel mark.

To the county agents and the secretaries of the county pure bred seed growers associations, who helped to arouse interest in the contest and who determined the yields and sent in the moisture test samples, is due in large measure the success of the project. The yields were calculated from the weight of the husked corn and the percentage moisture, the weight being adjusted to a fifteen per cent moisture content basis. The winners of the next fourteen places are:

Fred Hubbard, Morrisonville, Dane Co., Golden Glow, 128.1 bu. per A.
Jippa Wielinga, Midway, La Crosse Co., Golden Glow, 125.6 bu. per A.
John Bendel, Stoddard, La Crosse Co., Silver King, 117.4 bu. per A.
Robert Hall, Lena, Oconto Co., Golden Glow, 103.3 bu. per A.
M. J. Strunk, Jefferson, Jefferson Co., Early Yellow Dent 99.6 bu. per A.
Jos. J. Vandenplas, Green Bay, Brown Co., Golden Glow, 96.7 bu. per A.
Wm. Ohlfs, Crivitz, Marinette Co., Golden Glow, 91.5 bu. per A.
Henry Peterson, Centuria, Polk Co., Golden Glow, 83.7 bu. per A.
A. H. Thompson, Black River Falls, Jackson Co., Silver King, 83.2 bu. per A.
Moore & Harper, Lancaster, Grant Co., Silver King, 83.1 bu. per A.
Harold Fahrendorf, Milltown, Polk Co., Golden Glow, 82.4 bu. per A.
W. E. Bishop, Arcadia, Trempealeau Co., Golden Glow, 81.8 bu. per A.
Joe Muskvitch, Shawano, Shawano Co., Golden Glow, 81.6 bu. per A.
Joe Schnieder, New Franken, Brown Co., Golden Glow, 79.8 bu. per A.

HOW THE YIELD CONTEST WAS WON

VICTOR A. TIEDJENS

That Wisconsin should hold a high place as a corn producing state is not to be wondered at when it has farmers who are growing as high as 138 bushels on a single acre.

The Two Acre Corn Yield Contest that is being carried out in the state every year is merely an indication of what may be expected from yields in the future. This is borne out by the fact that the high yield has been increasing every year since the contest began. The average yield for the state in 1919 was higher than that of any of the other large corn producing states.

That the northern boundary of the corn belt is being gradually pushed northward is fast being generally realized. The showing is all the more impressive when we consider that only a little over half the land in the state is under cultivation, and that some of the biggest yields of corn are being grown on some of the lighter soils.

The varieties developed by the Experiment Station adapted to the different sections of the state, and the methods used by farmers, account for the high yields that have been obtained in the contest. The contestants were from all parts of the state, representing all different types of soil. Golden Glow corn was the most popular variety and was the highest consistent winner.

BROWN COUNTY LEADS

Jacobsen Brothers of Brown County who won the contest last year by growing 138.2 bushels of Golden Glow corn per acre on a two acre field, operate a pure bred grain and Guernsey farm. The buildings, stock and layout of the farm show systematic method with which problems are dealt with on the farm. The corn crop is only one phase of their farming operations, but the thoroughness with which every problem is attacked, regardless of size, brings them success.

In answer to our question, "what do you think of the Golden Glow corn?" one of the brothers gave us some interesting observations on their farming practices.

"We believe," said he, "that the Golden Glow corn in a very good variety for this section of the state, after it has become acclimated and care has been taken in the selection of the seed. It gets flinty and will decrease in size if care is not taken.

"We have not practiced the ear to row method for our next year's crop, but we select our seed for planting while on the stalk in the field. We pick from fair sized stalks that have the ears quite well up from the ground, so they are not apt to be knocked off or bruised by the binder.

WANT SIZE IN EAR

"Neither do we pick the ears that ripen first any more as we did the first few years that we grew the corn. If we did we would lose in size what we gained in earliness and our yield would suffer. When our seed is all selected it is put on racks and fire dried, and tested in the spring before planting."

The Jacobsens always plant corn on clover or alfalfa sod which has been fall plowed, and top dressed with stable manure during the winter. This is well worked with the disc as early as possible in the spring, and as often as possible to get a good seed bed, conserve moisture, and kill weeds.

ADD PHOSPHATE TO LAND

Just before planting they put on 200 pounds of acid phosphate, which is broadcasted and harrowed into the soil.

All of their corn is planted as early as possible with a hand planter, putting three to four kernels in a hill in checks 36 inches apart each way. A few days after planting they go over the field with a weeder, covering up the marker rows and pulverizing the surface soil. This also prevents crows from digging out the hills.

Their soil is a sandy loam, underlain with a clay subsoil and they have to cultivate often to prevent a crust from forming after every rain. The first cultivation is quite deep, but after that it is very shallow, because they believe damage is done to the corn crop by cultivating too deep, thus cutting off the feeding roots which are near the surface of the ground. They use a twelve tooth cultivator and hoe out the weeds around the hills once during the growing season. The early preparation of the seed bed gets most of the weeds so that they are not bad to hoe out.

CROPPED FORTY-FIVE YEARS

The Jacobsens have grown the strain that raised the 138 bushel crop for five years and find that the yield is increasing every year. The two acres that they grew for the contest was a two year old alfalfa field. This field has been under cultivation forty-five years and is still able to grow better crops every year.

They have grown cold resistant Golden Glow for two years and think it will be fully as good as the common variety, and expect it to yield as well under similar conditions. It has the advantage that it can be planted 8 to 10 days earlier. They expect to try it for this year's contest, and will grow it under the same conditions that gave their big yield last summer.

ANOTHER NORTHERN WINNER

Robert Hall of Lena, Oconto County, who won fifth place in the contest with Golden Glow, getting a yield of 103.3 bushels per acre, grew seven acres of corn and his yield is an average of the field.

"I like the Wisconsin No. 12 corn best, although there are some here who like the No. 8 and No. 25 better, as they ripen earlier, but do not yield as heavily and do not produce as much fodder as the No. 12. I have had the same strain of corn for eleven years and have had ripe corn every year but two," said Mr. Hall.

"I select my seed while the corn is still standing, fire dry it, and keep it dry. I test every ear, and use only those testing 100 per cent."

Mr. Hall's soil is a well drained heavy sandy loam. He fall plows clover sod and top dresses the land with stable manure. He plants his corn from May 10 to 15, in checks not less than three feet eight inches apart each way. It gives him a better chance for cultivation, which he says is the main thing in growing corn. The kernels are planted only an inch deep, and the cultivator is started as soon as the small plants are coming through the ground.

THE IMPORTANCE OF CROP ROTATION IN GROWING PUREBRED SEED

ANDREW BOSS, *University of Minnesota*

The value of good seed in securing satisfactory yields and quality of grain has been demonstrated times without number. To be good seed it must be of pure and unmixed variety, of good quality, of high germination and free from trash, weed seeds and disease.

The Minnesota Experiment Station has for twenty-five years or more been creating new seed stocks by cross breeding, purifying, testing and introducing new varieties of crops. It has been a frequent experience to have these newly made varieties accepted by the trade and by the farmers and then within a very few years have them lost as pure seed stock, because of mixture with other kinds of grain or by serious infestation of weed seeds or with the germs of disease. The usual explanation is that the seed was sown on land that had been in barley or wheat or some other grain the year previously and some volunteer grain came on this year and is mixed in. It is also a common experience to have a good seed stock raised on land that is infested with smut, flax wilt or some other disease, thus, greatly reducing the value of the seed stock.

Such mixing frequently takes place where wheat follows barley or where pure wheat follows other wheat. Volunteer grain, disease infested soil and woody land are the very common penalties for continuous cropping of any kind. Obviously, on such land it is impossible to grow satisfactory seed grain. Clean land is absolutely essential to the production of purebred seed of satisfactory quality.

There are different ways of cleaning the land and of keeping it clean. Bare fallow with clean cultivation is often recommended as a process for cleaning the land. Where cleaning is the only objective, there can be no objection to such a process. Most farmers, however, object to having a part of their land lie idle for a season. In some instances an open bare fallow is one of the easiest spots on a farm to infest with new weed seeds. Because there is a desire to have all of the land covered with a growing crop, few farmers will adopt the bare fallow method of cleaning the land except in emergency cases. Even though land can be cleaned in this way, the bare fallow is not to be advised, because of its effect on the organic matter in the soil. The introduction of grass and cultivated crops may give equal opportunities for cleaning the land and at the same time give the opportunity for profitable crops from the land. The use of grass and cultivated crops in combination with grain crops give the basis for a practice which can with great advantage, be organized into a crop rotation. This raises the question of what is a suitable rotation for the production of pure seed. Taking for granted that several kinds of pure seed are to be grown, the following rotations are introduced for discussion.

(1) First year, corn; second year, grain; third year, clover. This is the ordinary short-term popular rotation on the diversified farm. It may be adapted to the entire farm, or it may be limited only to small fields for the production of seed stocks. The growth of corn on the land that is to produce a crop of seed grain is quite advisable. Almost all kinds of grain do well following a corn crop. The corn field offers great opportunities for exterminating noxious weeds. If the corn is properly cared for and the land well handled, it should raise an excellent crop of clean grain the year following. With the grain the second year in the rotation a seeding of clover may be made, which in turn becomes the crop for the third year.

This rotation on small fields gives the possibility of providing a special seed plot of corn followed by a seed plot of grain and that in turn by clover which may be used for seed. It goes without saying that it is not necessary to use all of the crops for seed. With grain grown only every third year and with clover and corn grown in between there would seem to be no possibility of a mixture from a volunteer grain. None of the crops are grown frequently enough to permit the establishment of serious crop diseases and between the corn and the clover, weeds can easily be kept in check.

(2) A four year rotation giving opportunity for a larger amount of cultivated crops is sometimes desirable. The following is suggested:

First year, corn; second year, grain; third year, clover; and fourth year potatoes or soy beans. The arguments for this rotation are very similar to those of the three year rotation so far as the effect on the land and the freedom from disease are concerned. There is no danger of mixture from volunteer grains when the grain crop is grown only once in four years, and with two cultivated crops and a clover crop grown in the intervening years.

Almost any combination of crops that recognizes the classification of grain crops, cultivated crops, and grass or legume crops can be worked into a satisfactory rotation for the production of pure seed grain. The important factors to keep in mind are: (1) Necessity for clean cultivation, (2) Pure, sound seed stock when sown, (3) Seed disinfection, and (4) Correct soil management.

It is just as essential to eliminate scrub seed grain as it is to eliminate scrub live stock. Grain may be made "scrub" through poor breeding, poor seeding, infestation with disease and crowding and mixture by weeds.

To grow good seed grain, therefore, the soil must be clean and healthful. It must be well fed and it must be well tilled. A good habitate for bacteria must be provided if all crops are to do well. There are instances in which commercial fertilizers should be used. Barnyard manures, however, will suffice in most places if used in connection with a good crop rotation. An analysis of the situation shows that crop rotation provides most of the conditions essential to securing good seed grain. It would be difficult to over emphasize the importance of a well-arranged crop rotation in the production of satisfactory pure bred seed grain.

AVERAGE YIELDS PER ACRE OF THE PUREBRED AND PEDIGREE GRAINS

Reported by Members of the Experiment Association, 1920

Variety	Av. Yield
Pedigree Barley.....	38
Oats—Pedigree 1.....	51
Pedigree 5.....	55.7
Pedigree 7.....	51
Pedigree Rye.....	19.7
Pedigree Winter Wheat.....	27.6
Marquis Spring Wheat.....	16.7
No. 7 Corn (Silver King).....	64.3
No. 12 Corn (Golden Glow).....	52.7
No. 8 Corn (Early Yellow Dent).....	62

CORN BREEDING FOR THE SEED CORN PRODUCER

E. D. HOLDEN

There are some notable examples of what can be accomplished on the farm in corn breeding by a grower who is interested in this work and who possesses the power of keen observation and the ability to use his



CORN EXHIBIT ROOM AND CORN PALACE

observations correctly to guide him in his methods. The work started by Leaming nearly one hundred years ago, and that of Reid, which have helped make corn growing history by giving to the world the widely grown Leaming and Reid's Yellow Dent varieties, are well known. Such pioneers in the field of corn breeding worked largely alone and with little to guide them except their judgment based upon study and experience.

The state experiment stations have long since taken up the work of breeding corn in a thorough and extensive way, and have disseminated varieties which are highly productive and which are best adapted and acclimated to the regions for which they were produced.

No matter how well bred and productive may be the strain of corn with which a grower starts, these good qualities can be maintained or improved only by constant attention to seed selection. This makes it necessary for our seed corn producers to give thought to the selection of seed for their fields, and it makes it possible for the more ambitious ones to even improve the pure bred corn on their own fields by selection for yield, quality, and adaptation.

FIELD MASS SELECTION METHOD

The easiest method, and one which every corn grower who saves his own seed should practice, is to go through the field in the fall and pick good seed ears from the standing stalks. This should be done before there is danger of frost. Good typical ears, which conform to the standards of the variety, should be selected, from stalks which are large, leafy, and healthy. They should be more mature than the average of the field. About twice as many ears should be gathered as will be needed for planting, which will allow for more critical selection and testing later. The ears should be taken inside and fire dried immediately. This method, if carefully followed, will result in maintaining or improving the desirable characters of each succeeding crop.

EAR-TO-ROW METHOD

An improvement over the mass selection method consists in planting the best seed ears in rows on one side of the field, each ear in a separate row. This gives an opportunity to compare the crop from the individual ears through the season, and to select for seed only the best ears from the highest yielding and most evenly maturing rows. The greater amount of work in this method consists in planting each ear to a separate row, and in harvesting each row separately so as to have the yields exposed side by side for comparison. The result is well worth the effort, however, for great differences will be found in the yield and uniformity in size, shape, and maturity of the ears from the different rows, and progress is faster by this method than by mass selection.

There are some modifications which increase the effectiveness of the above ear-to-row method, one of which consists in saving the few best ears from each of the two best rows, and planting the mixed seed from these ears on one side of the field. The seed ears for the following years ear-to-row test and general field are selected from the standing stalks in this plot. This accomplishes more rapid improvement by narrowing down the selection to the two best rows in the ear-to-row plot, and the few best ears in these rows.

The effectiveness of these methods of seed selection depends on the judgment used in picking out the desirable seed ears, and in the ear-to-row test, in picking out the rows having the most desirable char-

acters. By following one of the methods carefully the seed corn producer can gradually improve the breeding of his strain of corn and put out a better grade of seed each year. The three important points are, (1) to start with a pure bred variety, (2) to follow some good method of seed selection, and (3) to fire dry and take good care of the seed after it has been gathered.

SECOND ANNUAL MEETING OF THE INTERNATIONAL CROP IMPROVEMENT ASSOCIATION

Chicago, Ill., December 1st, 1920

The second annual meeting of the International Crop Improvement Association, of which the Wisconsin Experiment Association is a charter member, had for its main consideration the "Inspection, Certification, and Marketing of Seed Grains" by the various crop improvement and experiment associations. The purpose of the International Association is to correlate the activities of these organizations so they can coöperate effectively in their common work of crop improvement and pure bred seed dissemination. The following review is taken from the report of the secretary, J. W. Nicholson:

PROGRAM

Seed Inspection, Certification, and Marketing; Canada's Method
L. H. Newman, Sec., Canadian Seed Growers Association,
Ottawa, Canada

Certification Work in Indiana
W. A. Ostrander, Indiana Corn Growers Association,
Lafayette, Indiana

Michigan's Inspection and Marketing System
A. L. Bibbins, Sec., Mich. Crop Improvement Association,
East Lansing, Michigan

Alfalfa Seed Inspection in Idaho
B. F. Sheehan, Sec., Idaho Seed Growers Association,
Boise, Idaho

Grimm Alfalfa Seed Inspection
W. R. Porter, Sec., Grimm Alfalfa Seed Producers Association,
Fargo, North Dakota

The meeting was presided over by President R. A. Moore. Each of the talks brought forth considerable discussion on the different methods and systems used in the various states and provinces in the work of inspection and certification, and resulted in a committee being appointed to study the matter carefully and draw up a set of recommendations for a standardized Nomenclature and Rules. It is hoped that, through the adoption of uniform rules and nomenclature, the associations may be able to coöperate more effectively.

The following officers were elected for the ensuing year:

President.....G. H. CUTLER, Edmonton, Alberta
First Vice President.....R. A. MOORE, Madison, Wisconsin
Second Vice President.....B. F. SHEEHAN, Boise, Idaho
Third Vice President.....A. L. BIBBINS, East Lansing, Michigan
Secretary-Treasurer.....J. W. NICOLSON, Lansing, Michigan

PREPARING SHEAVES AND THRESHED GRAINS FOR SHOW

E. D. HOLDEN, MADISON

GRASSES, CLOVERS, VETCHES, SOY BEANS AND FIELD PEAS

Collect tall, *healthy*, leafy samples having medium sized stems and cure slowly by spreading out to dry in a rather dark room or shady dry place. Don't pile too thickly or leaves will turn yellow or red and may mold. Stirring will prevent this. Put up neatly in bundles or sheaves about three or more inches in diameter at the center band. Tie these bundles with strong cord. With timothy and other grasses,



A SECTION OF THE SHEAF DISPLAY

choose large heads and long stems, and *do not strip off the leaves*. With alfalfa, clover and soy beans, the dry leaves may drop off in handling. This may be prevented by covering samples with a damp cloth for a short time before making up the sheaf, but do not get the sample too damp, as it may mould. Store bundles in a dark dry place. Collect clovers and vetches when in blossom, alfalfa when just beginning to bloom, and timothy and other grasses when heads are nearly ripe. Soy beans for forage sheaves should be cut when the plants are well podded but the beans immature, and the leaves still fresh.

SHEAF GRAINS

Pick out of your field some nice ripe heads and tall stalks of oats, barley, wheat, rye or whatever grains you may be growing and allow to cure out under cover. They may be spread out on the floor, on tables, or on a row of slats, which will allow the air to circulate easily. Strip off all leaves before the stems become dry and brittle, and put together in a three inch bundle. Try to secure well filled out heads and as bright straw as possible. For bundle of mature soy beans select plants having a large number of uniform, mature pods.

THRESHED GRAINS

The first step is to get plump grain of good color. You know how the rain will discolor oats and barley. This can be avoided by hauling a small load of bundles and let them cure in your barn. They may be set up in long shocks on the barn floor which allows a good circulation of air. Then thresh this grain separately. Later run your grain through the fanning mill and blow out all light seeds, chaff, etc. To increase the weight of your sample, put some in a sack and tramp it. You will observe that this treatment rubs off the beards and tips of oats and barley, and chaff which may adhere to the kernel. Blow this light stuff out of the grain you have tramped and you can readily see how the weight will be greatly increased. There is danger, however, of overdoing the tramping. If, for example; the tips of oats and barley are rubbed off so that the meat of the kernels is exposed badly, the judges will object and say that the grain has been overworked. Get a half bushel or more ready. Pick out by hand any bad kernels you may find. It is not a very difficult matter to get a show sample of any good grain ready.

WORK OF THE HEMP ORDER

A. H. WRIGHT, *Secretary*

Continued progress has been made in developing the hemp industry during the winter of 1919 and the season of 1920. Our work during this period has been the continuation of the activities developed during previous years, straightening out new problems that have arisen, and endeavoring to maintain a balanced development of every phase of the business.

The work of broadening our markets was continued, and we succeeded in disposing of large quantities of tow in Europe, and over 150 tons of long line fiber to the national navy yard at Boston. Such sales materially affected the price and stimulated interest in the Wisconsin product, resulting in the disposition of the entire Wisconsin crop early in the season and at a price that was very satisfactory.

Growers generally throughout the state indicated an active interest in planting hemp last spring, and consequently there was little difficulty in obtaining the acreage desired by the mills. The acreage planted was a considerable increase over that of the preceding year. The only limiting factor in increasing the acreage was that it was difficult to obtain sufficient seed of good quality for planting. The total acreage for 1920 is estimated at 6,000, which is an increase of nearly 1,500 acres over that of the previous year. The state had a material lead in acreage over any other state in 1920, having fully as much as all other states combined.

For the third year in succession Wisconsin leads all other states in acreage and production of hemp. Wisconsin was the only state during 1920 which had an increased acreage; all other states show a decrease. The acreage and distribution of hemp in the United States is shown in the following table:



THE 50-EAR SAMPLE OF SILVER KING, AND THE CUP WON PERMANENTLY BY S. P. MARKLE, LA CROSSE

State—	Acreages.					
	1915.	1916.	1917.	1918.	1919.	1920.
Wisconsin	400	1,200	7,000	7,500	4,750	6,000
Kentucky	6,500	13,500	18,000	7,000	1,200	300
Northwest (N. Dak., S. Dak., Minn.)	None	80	6,800	7,100	5,000	1,300
Indiana	500	800	2,400	2,300	1,700	500
Ohio	400	1,000	1,500	1,900	1,500	200
California	600	1,600	5,000	2,100	750	500
Michigan	None	None	400	525	500	400
Illinois	None	None	100	375	400	650
Total	8,400	18,180	41,200	28,800	15,800	9,850

There are now twelve hemp scutch mills in Wisconsin, located at the following points: Union Grove, Beaver Dam, Waupun, Alto, Juneau, Brandon, Picketts, Fairwater (two mills), Markesan (two mills), and Roberts.

PUREBRED SEED DISTRIBUTION TO ACRE CORN CLUBS

One of the most effective ways of educating growers to the value of pure bred seed and proper cultural methods is through the corn clubs. The young folks are given proper instructions and are supplied with pure seed, and they keep records through the season of the time and labor expended on the crop, so that when the corn has been husked and the yields determined they have an intimate knowledge of costs and profits. After becoming acquainted in this way with the pure bred varieties and the best methods of culture the young corn growers appreciate the value of science and education in practical farming and they have made a good start on the road to success in their vocation. The Experiment Association each year sets aside fifty dollars with which to help supply the corn club members with pure bred seed.

PEDIGREE FIELD PEA DISSEMINATION

Last year the Experiment Association put into operation in thirty-one counties a plan which established in each county a Pedigree pea seed center, which will extend as the stock is multiplied from year to year until the inferior and mixed peas are largely replaced. In each of the coöperating counties sufficient of the Pedigree seed to plant two acres was placed with a grower who was to keep the stock pure and sell the crop for seed to neighboring pea growers. He was also to return to the Experiment Association the same quantity of seed which he received, this seed to be used the following year in the same way to extend the dissemination. Most of the growers reported good success with the Pedigree Scotch and Green peas, and the two bushel lots which reverted to the association were placed with other growers this spring.

NEWS FROM THE "INTERNATIONAL"

A meeting of state representatives was held March 21, at Chicago, to plan for the next International Grain and Hay Show. Some changes were made which are of interest to Wisconsin exhibitors, and which will enable them to compete to better advantage. Northern Wisconsin is put into Region 1 while the southern part of the state remains in Region 2, so that the northern corn will have a chance to take its

share of the premiums without coming into competition with the larger southern corn. Flint corn from Regions 1 and 2 is shown in separate classes, also, giving the northern flint a better chance. Soy Beans from Regions 1 and 2 are shown together and do not compete with the southern soy beans from the other regions. These changes are designed to favor the northern section, and we can go to the next "INTERNATIONAL" with better opportunity than before to make a strong showing.

WANTED—A GREAT HAY SHOW

At this meeting we decided to concentrate our efforts strongly to develop a great hay show, which will be truly representative of the importance of our alfalfa, timothy, and clover crops. Wisconsin is widely known as a great hay state; indeed, to our northern section has been given the significant name of "Cloverland." The show management is looking to Wisconsin as one of the states to take the lead in putting up a large hay show of fine quality. Wisconsin exhibits won Sweepstakes in 1919 and two firsts in 1920, which shows that we can put up winning bales if we turn our attention to it.

The Chicago Board of Trade is giving \$800.00 in cash premiums for hay. There are classes for alfalfa, timothy, and clover. An exhibit consists of a 50-pound bale. Here are some suggestions which have come from successful exhibitors.

The samples should be pure timothy, alfalfa, or red clover. Timothy and red clover can be taken from new seedings, but the best alfalfa comes from old beds.

The samples are cut at the same time the regular hay crop is cut. It is important to cure the samples with as little exposure to the direct sunlight as possible, and without exposure to rain or dew, for direct sunlight and dampness discolor the hay. Curing in the shade is the ideal way. If the hay is put into cocks as soon as sufficiently dry, the inside of the cocks will be protected and the natural rich color preserved. After thoroughly cured the hay should be baled and the bale stored in a dark dry place.

OTTO WOLF'S METHOD

Otto Wolf of La Crosse, who won first on timothy hay at the last International, tells how he did it as follows:

"I cut the timothy just after most of it had finished blossoming, dried it quickly, and then put it in a shed. (A rain or heavy dew will discolor it at once.) Then I covered it with about six inches of marsh hay to keep it from bleaching. On a rather damp day I passed it through my power baler. Care must be taken not to press the hay too tight, or the heads and leaves will be broken off."

Alfalfa Order

PROGRESS AND PROBLEMS WITH ALFALFA IN WISCONSIN

L. F. GRABER, *Secretary Alfalfa Order*

ANNUAL REPORT—1921

It is a distinct pleasure for me to welcome the members of the Alfalfa Order at this our tenth annual meeting. We have just reason to feel proud of the splendid progress that has been made. When our Association was organized in 1911, Wisconsin claimed some 18,000 acres of alfalfa. Today accurate assessor's reports credit us with 97,445 acres. Considering the numerous problems which we have had to solve and those that are still awaiting solution and the vast amount



MR. JAMES B. CHEESEMAN

Our first president and one of the founders of the Alfalfa Order, whose great interest in alfalfa has helped the good work along.

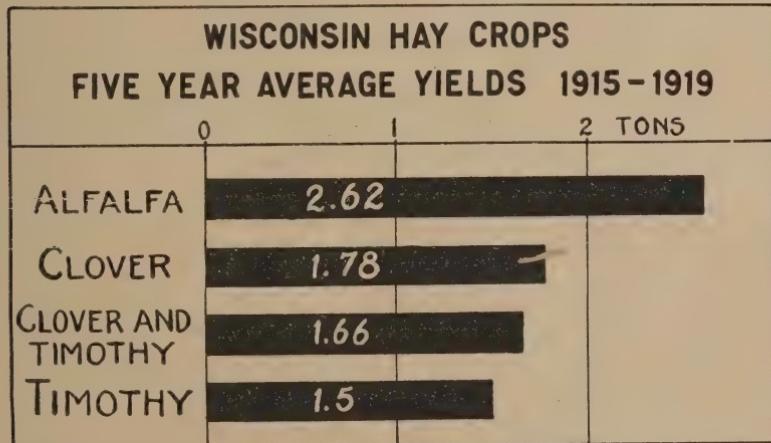
of educational work that has been and is required and that the alfalfa territory in Wisconsin is, at present, largely localized in eighteen of the 71 counties in the state—we have, indeed made progress.

The following eighteen counties grew 86,287 acres out of a total of 97,445 acres of alfalfa produced in Wisconsin in 1920:

	Acres.
Green	12,486
Waukesha	11,391
Jefferson	9,028
Fond du Lac	7,883
Walworth	5,195
Dodge	5,194
Dane	5,025
Racine	4,463
Rock	4,312
Sheyboygan	4,268
Washington	3,353
Kenosha	3,275
Calumet	2,157
Milwaukee	1,969
Winnebago	1,833
La Fayette	1,589
Iowa	1,465
Ozaukee	1,401

**FIVE YEAR AVERAGE SHOWS THAT ALFALFA EXCELS ALL OTHER
HAY CROPS BY NEARLY A TON PER ACRE**

With alfalfa hay worth around \$25.00 a ton and the continuous protection in price from western competition by virtue of heavy transportation costs—an increase of one ton per acre of a high priced hay is of no small consideration in the solution of some of today's economic problems of agriculture.



The average yields per acre for the five year period of 1915 to 1919 of Wisconsin hay crops are stated as follows by the Wisconsin Department of Agriculture from whence all statistics previously mentioned were obtained.

A SERIOUS PROBLEM WHICH HALTS ALFALFA PROGRESS

The growth of Wisconsin's Alfalfa acreage has not been steady. It has fluctuated widely. Note the figures below.

GROWTH OF ALFALFA IN WISCONSIN

1917	72,000 acres
1918	38,000 acres
1919	60,000 acres
1920	97,000 acres

What caused the reduction of nearly 50 per cent (34,000 acres) in 1918? The winter of 1917-18 was one conspicuous for its alternate freezing and thawing with little or no snow to cover for winter protection. This raised havoc with many established fields of alfalfa. Clover killed, too, and the tonnage of hay in the state was greatly reduced—so much so that a great shortage was felt.

W. F. Callander of the Wisconsin Department of Agriculture and the Bureau of Crop Estimates presented some very convincing evidence on the winterkilling losses in Wisconsin that year in his report on June 10, 1918, which reads:

"It is estimated that the acreage of clover in Wisconsin is 66 per cent of the acreage harvested last year, *the decrease being due to winterkilling*. The foregoing estimates are based upon extensive field investigations, reports from 4,000 individual farms giving the acreage for 1917 and 1918 for comparison as well as reports from crop correspondents representing practically every township in the State."

On August 10, 1918, he reported:

"The hay crop for Wisconsin is the lightest in years due to severe winterkilling of clover. The total estimated production of all hay for the state is now placed at 3,850,000 tons compared to 5,022,000 tons last year or a decrease of (23%) 1,172,000 tons."

In 1916, we had no dependable statistics on our acreage but we were aware of the seriousness of winterkilling and its tremendous losses by 322 reports received from our members in the spring of that year. These members had secured common Montana and Kansas alfalfa seed through our Association for experimental trials in 1914. Fifty per cent of them reported that the hard winter had entirely ruined their good fields, 21% had partial killing and 29% escaped injury. From that time it was apparent that to get a good stand of alfalfa was of first importance but of almost equal importance was the proposition of keeping a good stand after it was once established.

PRECAUTION VS. REMEDIES

"An ounce of prevention is worth a pound of cure" applied very aptly in controlling the outrages of Jack Frost. There are practically no cures for an alfalfa field which has been badly thinned by a hard winter, but there are precautions which go a long way in making alfalfa fields permanently productive. If you would have a field that will last, take no chances—play the game sure by avoiding late fall cutting. This means emphatically, "Don't cut or pasture alfalfa after the tenth of September." Don't kill the goose which lays the golden eggs by exacting every last bit of tribute alfalfa has to offer. Leave a growth for winter protection. It may need it. Who knows what the winter is going to be? Play safe. Think of it? Our good friend and president, Peter Swartz of the Cornfalva Farms where they grow 200 acres, leaves from two to three thousand dollars worth of alfalfa stand uncut in the fall for winter protection. Isn't that sufficient proof? Play safe. Avoid late fall cutting and pasturing.

WINTERKILLING IN SPITE OF AUTUMN PRECAUTIONS

But it still remains that some winters are so severe on all seedings that even with the best of care and precaution alfalfa will kill out.

WEATHER	YEAR	ACRES				
		20,000	40,000	60,000	80,000	100,000
MILD	1917	72,000				
SEVERE	1918	38,000				
MILD	1919	62,000				
MILD	1920	97,000				

How winterkilling affects our alfalfa acreage. Clover suffers also. From limited past experience it seems hard winters occur every three or four years.

Under these circumstances there is only one solution of problem. Use seed of the hardiest varieties. Time does not permit a detailed discussion of the hardiness of Grimm, Baltic and Cossack—which appear to be the three hardest commercial varieties. Results of a six year trial will be sufficient at this time. In 1914, we sowed among several—two plots of Grimm; two of Baltic and five of common. In 1915, these plots were all excellent in stand and growth. There was practically

no observable difference but the second winter killed an average of 55% of the plants in the common plots. The Grimm and Baltic plots winterkilled an average of 28% but the reduction in stand was noticeable to a relatively slight degree.

The effect on yields with this thinning together with that which occurred in the winter 1917-18 is shown by the six year total yields on the basis of two cuttings annually.

SIX YEAR YIELDS

Two plots of Grimm and two of Baltic.....	22.6 tons per A.
Five plots of common	16.6 tons per A.

Difference in favor of hardy seed over six year period 6 tons per A.

I desire to caution the members lest these figures be misleading. Hardy varieties like Grimm and Baltic are not necessarily heavier yielders of hay than the common western strains except when a hard winter kills out the common seriously while Grimm and Baltic by virtue of their superior hardiness may suffer less winter injury. Remember that the main advantage of a hardy variety of alfalfa is its resistance to winter injury and this will generally not be manifest until a hard winter does come—which from limited past experience we may expect about every three or four years. There is no alfalfa absolutely winter proof but there is a wide variation in the hardiness of varieties and strains. It is just as difficult and requires the same good soil treatments to secure a satisfactory stand with hardy, high priced alfalfa seed as it is with the cheaper common kinds. The principal advantage of hardiness in alfalfa is the greater permanence of established fields. Where alfalfa is grown in short three or four year rotations it is often true that common western alfalfa seed answers the average requirements.

DISADVANTAGES OF HARDY SEED

The good qualities of the winter resistant alfalfas are often severely discounted because of the difficulty of getting the hardest strains of seed. No one can distinguish the seeds of the hardy American varieties from the less hardy kinds. This makes the purchase of any special alfalfa very difficult and the greatest of care needs to be exercised. The Alfalfa Order is attempting to test out samples of Grimm, Baltic and Cossack and common alfalfa seed from western growers in order to locate the most dependable and hardest sources of seed.

A PROMISING DISCOVERY

A method of distinguishing hardy alfalfa from the weaker strains by their first year's growth has been worked out which gives promise of proving of vast practical significance.

The method is based on the tendency of hardy varieties to develop a fall dormancy of decumbent spreading growth whereby with a specific plan of seeding and summer clipping it is possible to dis-

tinguish with what appears to be a reasonable degree of accuracy, Grimm, Baltic and Cossack and other hardy alfalfa seeds from the weaker native western grown strains the very first season the alfalfa is sown. This may pave the way for many desirable sources of seed as well as eliminate seed that has proven undesirable.



ALFALFA (IN FOREGROUND) FOR HAY; CORN FOR THE SILO

A home-grown seed combination which excels in economy of production and profit.

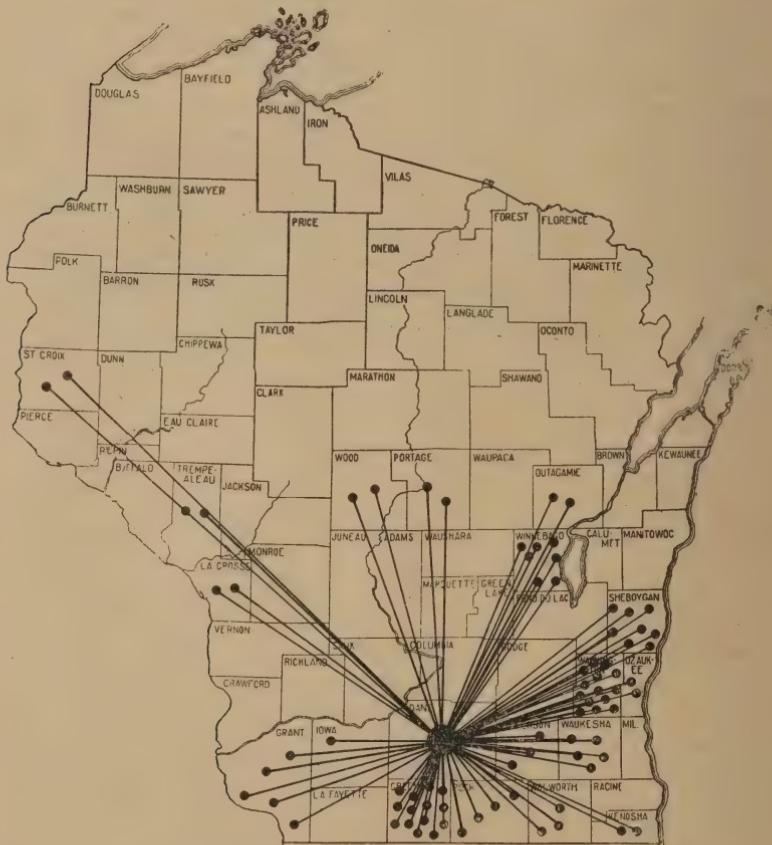
WESTERN GROWERS ENCOURAGED TO ADOPT SYSTEMS OF REGISTRATION AND CERTIFICATION OF HARDY VARIETIES OF ALFALFA

In addition to the tests previously mentioned the writer has visited many large western growers of hardy seed and inspected their fields. A year ago he addressed the Idaho Seed Grower's Association at Pocatello, Idaho, and the South Dakota Experiment Association at Brookings, S. Dakota. At both these meetings your Secretary urgently pleaded for the adoption of a workable plan of official field registration and seed certification of Grimm, Baltic and Cossack alfalfa seed in order that dependable sources of the hardest strains of these seeds might be created. Since then, definite steps in this direction have been taken in Idaho. North Dakota and Montana already have splendid systems in working order.

ACREAGE OF HARDY VARIETIES INCREASED IN WESTERN STATES

The Alfalfa Order has used untiring efforts in endeavoring to increase the acreage of Grimm, Baltic and Cossack alfalfa seed in the seed growing areas of the West and Canada. While definite figures are not now available it is safe to estimate that largely through our efforts 2,000 acres of hardy alfalfa have been sown for seed production out West during the past two years.

How unfortunate it is, when you think about it, that alfalfa does not produce seed abundantly under Wisconsin conditions. If it did, what a marvelous opportunity for the growing and dissemination of the best varieties of seed would obtain through the Alfalfa Order. As it is—we must depend on the western growers and while this involves a considerable uncertainty in the way of getting the right kinds of true-to-name seed from the far-off seed grower to the Wisconsin consumer, we are bending our efforts in the solution of this very complicated problem.



ALFALFA CAMPAIGNS AND MEETINGS

These educational "drives" to disseminate information for playing safe and making alfalfa a sure crop, by eliminating the causes for failure have had a most significant influence in extending Wisconsin's alfalfa acreage.

THIRTY THOUSAND ALFALFA BULLETINS DISTRIBUTED

The value of the work of the Association in creating interest in alfalfa growing is well illustrated by the immense call for our new Alfalfa Bulletin No. 308. This publication includes an accumulation

of new facts of great practical importance largely resulting from the coöperative effort of the members of the Alfalfa Order. The Experiment Station published 30,000 copies in January, 1920, expecting this supply to last for two years at least. In less than ten months the supply was exhausted and 15,000 copies additional were reprinted.

EFFECTIVE COUNTY ALFALFA CAMPAIGNS

Your Secretary, at the request of county agents in Washington, Winnebago and Sheyboygan counties has been identified with three alfalfa campaigns. The results in Washington County are illustrative of the benefits derived. This "drive" was waged in February, 1918, at which time Washington County had 772 acres of alfalfa. Following a series of 12 meetings coöperative organizations handled over 15,000 pounds of alfalfa seed—2,300 pounds of which was the hardy Grimm variety. This does not include large quantities of alfalfa seed sold by dealers. The best evidence of the effect of this campaign is shown by the tax assessor's reports on the alfalfa acreage in Washington County as follows:

1918	772 acres
1919	1,907 acres
1920	3,353 acres

LIME—ALFALFA DEMONSTRATION RESULTS IN SAVING OF \$12,000.00

A special "lime for alfalfa" campaign was waged in Green County in coöperation with James Lacey, the emergency agent, in 1917 and 1918 which was culminated with a special lime demonstration on the county farm. This soil was sour. It required between four and five tons of fine ground limestone per acre. We got the lime—put it on except for a thirty foot strip through the center of the field and in the spring of 1918 sowed alfalfa—several kinds—with one bushel of barley as a nurse crop. Despite a very droughty summer a good stand obtained in the fall, largely due to the "play safe" precaution of cutting the nurse crop for hay and getting it off early to give the alfalfa a chance to prepare itself for dry weather.

The following spring in June there was a "streak of yellow" sickly, thin, weak alfalfa through the center of that field where no lime had been applied, in strong contrast to the splendid, tall, thick, dark green, healthy alfalfa on the limed soil on either side. A field meeting was held and the most skeptical were convinced. Through the assistance of Arthur Preston, one of our members, a cement contractor was induced to buy an unused portable lime grinder and grind lime rock at convenient local quarries. He got started and the orders for ground limestone poured in. In the past two and one-half years he has ground at local quarries 5,500 tons of lime rock for soil purposes. Most of the farmers who had this lime rock ground lived four to six miles from a railroad station. To have finely ground limestone shipped in would have been very expensive considering the long haul and re-handling of material. A very conservative estimate of the saving resulting from this local lime grinding is \$2.50 to \$3.00 per ton or a

total of at least \$12,000 on the 5,500 tons used. This was but a "drop in the bucket" in illustrating the value of this work in the way of increased and more economical and profitable feed and food production on the farm. The lime grinding is still going on.

SERVICE THAT MAKES FOR PERMANENCE

The foregoing remarks are but illustrations of the effectiveness of the work in which the Alfalfa Order has been engaged for the past ten years.

We have based our efforts largely on the principle of educational service—based on experimental and demonstrational tests to determine the best remedies for alfalfa failures and the location of those sections

ALFALFA TOURS INSPIRE AND STIMULATE BIGGER ACREAGES



One of several automobile excursions to the famed Cornfalfa Farms, Waukesha, Wisconsin, where our retiring President, Peter C. Swartz, holds forth.

in Wisconsin where alfalfa can be most successfully grown. When I say successfully grown, I mean profitably grown—for you can grow alfalfa anywhere in all the wide world if you have enough money to make conditions right for it. We have not boosted alfalfa by heralding its wonders and beneficence broadcast over the land but we have tried to encourage its growth by means of demonstrations to prove and show the requirements for success.

During the past few years we have discovered some very remarkable facts concerning alfalfa which have a distinctly practical bearing. There has been mentioned previously the new method of distinguishing between hardy and non-hardy strains of alfalfa by their first season's growth. This gives promise of unusual value and importance. Additional contributions and elaborations to the fund of alfalfa knowledge which have been made are stated herewith.

AMAZING TRUTHS ABOUT ALFALFA RECENTLY DISCOVERED

1. ALFALFA MORE DROUGHT RESISTANT THAN RED OR ALSIKE CLOVER

Conclusive evidence of this assertion is very emphatic based on experimental trials and reported experiences of the members of the Alfalfa Order.

At Wauwatosa in May, 1918, a plot of alsike clover was seeded immediately adjacent to a plot of Grimm alfalfa. An excellent stand

obtained in both plots but following a severe summer drought fully 90 per cent of the alsike was killed by drought while the alfalfa was a perfect stand. The following year the alsike gave a very low yield of not more than a half ton (estimate) per acre while the alfalfa gave fully 3 tons (estimate) of hay per acre.

Identical results obtained in 1919 and 1920, on the Pabst Stock Farms at Oconomowoc, where we have 573 plots separated by alleys of alsike and red clover. The following members reported similar experiences on their farms where they had good sized acreages of alfalfa to compare with red and alsike clover.

Peter Swartz, Waukesha, Wisconsin
Lobdell & Blot, Mukwonago, Wisconsin
C. L. Thomson, Richland Center, Wisconsin
Victor Kutchins, Green Lake, Wisconsin
C. S. Ristow, Black River Falls, Wisconsin

The superior drought resistance of alfalfa is undoubtedly explainable on the basis of the more widely and finely branched and comparatively shallower root system of the clovers compared with alfalfa plants. As the clovers are more dependent upon the surface soil moisture than alfalfa they are more likely to suffer when placed under adverse conditions.

2. GRIMM AND OTHER HARDY ALFALFA VARIETIES LESS DROUGHT RESISTANT THAN COMMON ALFALFA

While practically all varieties of alfalfa are more drought resistant than the clovers, experiences of the members of the Alfalfa Order indicate that the hardy varieties of alfalfa are somewhat less drought resistant especially in their first year's growth than the common strains.

In the spring of 1918, the Alfalfa Order supplied Roy Dibble, Pewaukee, Wisconsin, 24 pounds of Grimm No. 575 alfalfa seed which was seeded with a nurse crop. At the same time and in the same way, common alfalfa was sown adjacently. The nurse crop was cut for grain at which time an excellent stand of all the alfalfa was reported. A severe dry spell followed. With the oncome of fall rains the common revived and was an excellent stand while the Grimm (with the exception of a shady spot of a large tree) was a flat failure.

The same year, H. M. Longley of Dousman secured Grimm No. 572 seed from the Alfalfa Order which he compared with common seeded adjacently at the same time and in the same way. With the advent of fall rains the common revived from the summer's drought—the Grimm did not.

Edwin Severson, Galesville, Wisconsin, reports similar results, as does also David Bogue of Portage, Wis.

Two possible explanations of this matter may be suggested:

First: The Grimm (Baltic and Cossack also) having a tendency to produce a higher percentage of the more widely branched roots than the common may in its first year's growth have a shallower root system making it more susceptible to drought.

Second: Under certain climatic conditions it is plainly noticeable that Grimm in its first year's development (also Baltic and Cossack alfalfa) does not make nearly such a pronounced vegetative growth as does common—a factor which may influence the depth of the roots and consequent drought resistance.

3. WINTERKILLING NOT ONLY THINS THE STAND BUT WEAKENS THE GROWTH OF THE PLANTS THAT SURVIVE

While losses from winterkilling are mostly based on the loss of plants and the thinning of the stand, the weakening effect of a hard winter on the subsequent growth and yields of alfalfa can hardly be overestimated.

This circumstance is best illustrated by an actual experience in our experimental work. In 1917, we seeded some 35 plots of alfalfa on the Experiment Station Farm. In the fall of 1917, all plots were excellent in stand and growth with the exception of a few ditches that resulted from excessive rain.

As previously mentioned the winter of 1917-18 was very severe on all alfalfa seedlings. In the spring of 1918 these plots were for the



ALFALFA MIXED WITH TIMOTHY

The alfalfa-timothy mixture is winning popular approval on many farms. It helps keep out the blue grass and increases the yields.

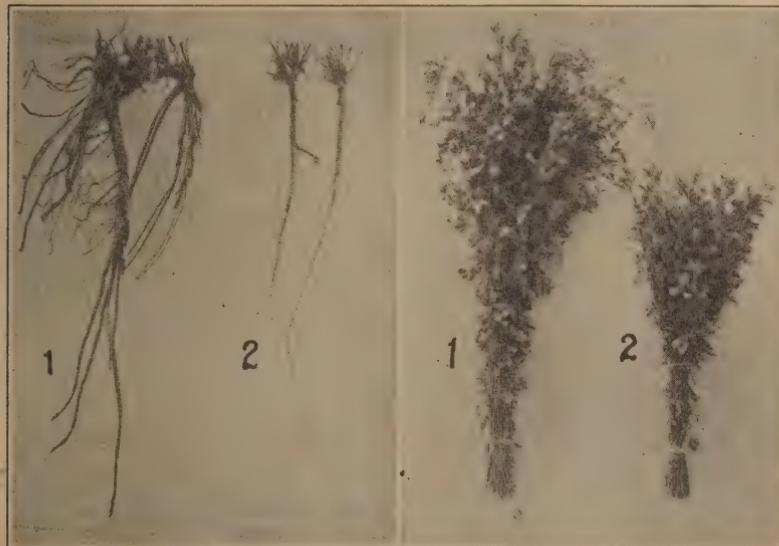
most part thick enough but they grew very slowly and were weak and yellowish green in appearance. They failed to thrive, stool out and grow with customary vigor. Especially was this true with the common strains. The Grimm, Baltic and Cossack plots did fairly well but on the whole all plots were sad looking sights. They had the very symptoms of alfalfa trying to grow on a very acid soil and starving to death for the want of lime. But this soil was not sour and had an abundance of lime in it. What was the trouble? That was hard to determine at the time but an examination of the roots and crowns of the plants gave a clue to the situation. This inspection showed frost bitten spots and portions of decay on the roots and crowns due to the severity of the previous winter. These decayed areas or sores interfered with the circulatory system of the plants and prevented normal growth by cutting off to a varying degree the food supply from the soil.

The question arose,—if this is true will these winter sores heal over and will the plants recuperate? While we kept no yields that season because we fully expected to plow up these plots on account of their poor condition—there was a pronounced improvement in the second growth and a still darker, healthier and more vigorous green growth in the third crop. Two cuttings were made that season which would not have yielded more than a total of $1\frac{1}{2}$ tons (est.) per acre.

The second winter 1918-1919 was very favorable for alfalfa and clover, and the following summer's growth and thickness of those alfalfa plots was nothing short of marvelous. One could hardly believe that they were the same plots which did so poorly the year previous. The average yields more than doubled those of the year before. The growth in 1920 was equally good, if not better, and until a hard winter comes again these plots will continue their splendid performance.

This illustration has served in answering a multitude of inquiries which invariably come to us following a hard winter. "What's wrong with my alfalfa? It seems to be thick enough but it doesn't grow and has a sickly yellow appearance. Don't tell me my soil is sour for I have had it tested and it has plenty of lime in it. Always grew good alfalfa on this field. What's your explanation of the trouble?"

The answer of course is—"your trouble is one of winter weakening instead of winter killing by which we mean a partial killing of the root and crown tissue by the alternate freezing and thawing without sufficient snow covering for full winter protection. Avoid late fall cutting or pasturing. You may expect your alfalfa to improve and recuperate from the injury before this season is over."



AGE IN ALFALFA MAKES FOR A LARGER PLANT, DEEPER AND MORE WIDESPREAD ROOTS AND A BIGGER YIELD

Showing roots and tap growth of three-year-old alfalfa; (1) which yielded 5.7 tons of hay an acre while the one-year-old alfalfa (2) yielded only 4.2 tons.

4. A LITTLE TIMOTHY MIXED WITH ALFALFA HELPS KEEP OUT BLUE GRASS

Most of our blue grass troubles are due to winterkilling. Experiments at Monroe, Mineral Point, Wauwatosa and Madison attest to the value of using a mixture of about $\frac{1}{4}$ timothy and $\frac{3}{4}$ alfalfa which in practice would amount to about 5 pounds of timothy and 15 pounds of alfalfa seed per acre.

If a good stand is obtained, the first cutting in the year following the seeding will be mostly alfalfa, with a uniform sprinkling of timothy just heading out. At this early stage timothy has a fairly high protein content and good palatability and feeding value, especially when grown in combination with alfalfa. The second and third crops will be pure alfalfa, as the timothy makes little recovery in growth after the first cutting.

The chief advantage of the combination is evident when winterkilling occurs which often leaves the field in a "patchy" condition. Instead of letting weeds and blue grass take the place of the dead plants where the alfalfa is thinned out badly, the timothy thickens and spreads out quickly, growing remarkably well on the decaying dead alfalfa roots.

In a four-year old plot of alfalfa and timothy on the experiment station farm over 50 per cent of the alfalfa killed out the second winter. In the two years following these plots averaged 6,850 pounds an acre in two cuttings. There was practically no trouble with blue grass, the much hardier timothy having taken the place of the dead alfalfa plants where the alfalfa was seriously winterkilled. On the upper end of the plot where winterkilling was not so serious, the timothy was less and the alfalfa much more abundant. Thus, the two crops are ideally adapted for combined growth. Where alfalfa thins, the hardier timothy thickens, but where the alfalfa remains thick the timothy keeps thin. This is one way of solving our blue grass troubles.

5. DOES ALFALFA IMPROVE WITH AGE?

Two adjacent plots were seeded with genuine hardy variegated alfalfa—one in June, 1917, and the other in June, 1919. In other words, one plot is now *three years old* and the other, *one year old*.

The three year old plot yielded the past season in two cuttings 5.7 tons per acre compared with 4.2 tons for the one year old plot. Both were excellent in stand but the three year old alfalfa averaged during blossoming period for both cuttings 9 inches taller in height of growth. The root system of the three year old alfalfa plants was much larger, deeper and more widely developed giving it a better and deeper feeding system and affording greater insurance against drought. The practical application of this on the farm may be stated as follows "Do not expect too much from your field of alfalfa the first year. Give it time to develop its root system in soil and it will show a gradual improvement in the rapidity of growth for the first three years after which further improvement is very slow to obtain." In other words, alfalfa becomes "full grown" in about three years. The above information is based on results following mild winters and with hardy seed.

With common alfalfa identical results have been obtained but it should be borne in mind that new seedings of common are generally hardier than old seedings and consequently a hard winter might counteract the advantage of age in reference to yields. Fact is a hard winter will obliterate the improvement with age of most any variety of alfalfa—hardy or otherwise.

6. A PECULIAR DAMAGE FROM ICE SHEETS

A light application of manure was given the alfalfa trial plots seeded in June, 1919, at Oconomowoc. Part of this application was made in the fall of 1919 before snow had occurred and part on top of the snow during February and March, 1920.

While the application of manure was a benefit to the alfalfa, winter-killing occurred along the wheel tracks of the manure spreader where the application was made on top of the snow. In this part of the field the wheel tracks were plainly visible even when the alfalfa was up ten inches high and the long, narrow parallel strips of partially winter-killed alfalfa were very striking. This condition is logically explained on the basis of the packed snow having partially melted and with later freezing formed an ice sheet which killed or weakened most of the plants beneath. No such injury occurred with the manuring before snow fall.

An identical experience was reported by one of the members of the Alfalfa Order.

7. A DISTINCT ADVANTAGE OF CLOSE CLIPPING IN CHECKING WEED GROWTH ON NEW SEEDINGS

Customary advice for clipping new seedings of alfalfa to eliminate the smothering effect of a first year's weed growth has been as follows:

Clip at such a height as to cut as much of the weeds and as little of the alfalfa as possible. Close clipping has always been regarded as dangerous on the grounds that it "cut the lungs out of the new born



LIMESTONE QUARRY

One of the numerous sources of lime rock for local grinding in Green County.

alfalfa." Special studies on this problem were made during the summer of 1919 and 1920 on new seedings at the Oconomowoc trial plots.

In 1919, two hundred and eighty-three fortyth acre plots were seeded May 23-24-25 on well prepared ground which had grown a well cultivated crop of corn the year previous. During the dry weather of July a heavy growth of weeds threatened to crowd out the alfalfa. Part of the field was clipped about five inches high to eliminate the weeds without harming the alfalfa and a small portion of the field was cut close leaving about one inch of stubble. Result?

The close cutting eliminated practically all the weeds and with the on-set of rain a new healthy vigorous growth of alfalfa came forth. With the alfalfa clipped high the weeds, mostly foxtail, began to grow

again, headed out and the field had to be cut again in August to save the alfalfa from being crowded out by the weeds. This later cutting was made close to the ground and it practically eliminated all the weed growth without the slightest injury to the alfalfa. Identical results obtained during the past season on 273 plots seeded the first week in June.

An observation of the habits of growth of alfalfa during its first year brings out the following significant facts.

1. Following the sprouting of the seed one or more stems develop and grow and with favorable conditions will blossom.
2. However, when drought or weeds or other factors seriously check or stunt the growth of these first stems, new shoots appear at the base of the plant and grow as fast as weather and soil conditions warrant while the old stems gradually wither up, drop their leaves and die.
3. Under these conditions close clipping to eliminate threatening growths of weeds does not appear to be harmful to the alfalfa and highly desirable for controlling the weeds.
4. Experiments by Roland McKee of the B. P. I. (U. S. D. A.) at Chico, California, show a rather marked reduction in the diameter of the roots of new seedlings of alfalfa clipped twice during its first year's growth. While this would indicate that clipping may hinder the root development of alfalfa, with a heavy weed growth, it appears to be a case of eliminating the greater of two evils by using one of them (clipping) as an antidote.



LIME GRINDING IN FULL BLAST

Over five hundred tons were ground at this one quarry near Brodhead, Wisconsin.

5. Observations on the one year old plots at Oconomowoc this summer indicate that when drought severely stunts the second growth of alfalfa, rainfall does not bring about a continuation of this growth but starts a new growth of shoots at the base of the plant which continues to develop while the old growth gradually dries up and loses its leaves.

8. DANGER IN CUTTING ALFALFA TOO EARLY

For five years the Kansas Station cut alfalfa at the following stages with resultant yields as indicated.

Flower buds formed—3.5 tons per acre—cut five or six times per season

Plants one-tenth bloom—4.1 tons—4 or 5 cuts per season

Plants full bloom—4.3 tons—4 cuts per season

Seed pods well developed—3.4 tons—3 cuts per season

As yet we have no yield data on this subject but observation indicates that the above results will apply to a considerable extent in Wisconsin as far as the cutting stage is concerned.

A year ago last June we cut two swaths between several plots in preparation for the Summer Demonstration on the Station Farm. This was done on June 18th. Ten days later the balance of the plots were cut. They were then in full bloom and many of the new shoots were tall enough to be clipped by the mower. What was the effect on the succeeding growth?

At the outset the second growth of the early cut swaths was ahead of the late cut portion of the plots but in the forepart of August the early cut areas stood out plainly and distinctly—yellow in color, with leaves dropping off and fully three inches shorter in height. Identical results obtained on the Cornalfalfa Farms this past year and several members of the Alfalfa Order reported similar results from the practice of cutting patches of alfalfa for green feed early in June. Four years ago two very early cuttings killed out a plot and weeds and blue grass took possession of the soil. The early cut plots at the Kansas Experiment Station were weakened and ran to blue grass, foxtail and crab grass in three years. The late cut plots maintained excellent stands and growth.

Forty-two plots of three varieties Grimm, common and Imported Turkestan (14 plots each) are now seeded for this very experiment and cutting trials will begin next year.

9. NEW ALFALFA SEEDINGS STAND WINTER BETTER THAN FIELDS TWO OR MORE YEARS OLD

While the following results have been previously reported it is a strange fact that average common alfalfa from Kansas and states farther north is much hardier the first winter than at any time later in its career.

An example of this fact is shown in a test on the experiment Station Farm where a plot was seeded on June 23, 1915, with Montana grown alfalfa in the same manner, under the same soil conditions, with the same strain of seed (taken out of the same bag) as a similar plot not more than three rods distant, which was sown June 27, 1914. Both these plots had excellent stands in the fall of 1915 but in the spring of 1916, 76 per cent of the plants in the two year old plot had winter-killed while of the new seeding only 9 per cent had winter-killed.

Just why old stands of common alfalfa winter-killed more seriously than new seedings is difficult to explain, but that it is a fact is further supported by 165 reports from members of the Alfalfa Order in 1916, three-fourths of whom declared their old stands winter-killed much worse than the new seedings of 1915. Results like this would indicate that where alfalfa is grown instead of clover in three or four year rotations the high priced hardy Grimm, Baltic and Cossack may not, in many places, be essential. These varieties are primarily of value where permanence of stand is desired.

10. VALUE OF SEED SCARIFICATION

Sweet clover and alfalfa, if hand pulled may contain a high percentage of "hard" seeds, that is seeds with such hard impenetrable coats they do not admit moisture to provide for fairly rapid and uniform germination. However, ordinary machine hulling results in a scratching of the seed coats which eliminates this difficulty to some extent but often not sufficiently to provide for a satisfactory, immediate germination.

In 1918, the Alfalfa Order purchased an Ames Hulling and Scarifying Machine. This machine was perfected at the Ames Station and consists of a fan and a semi-circular tube partly lined with sand paper. The seeds are blown forcibly through this tube and coming in contact with the sand paper their seed coats are scratched or at times largely removed. This permits ready absorption of moisture and prompt germination of the seed. While this scarification does not eliminate all the hard seeds its value is well illustrated by the tests we have made.

With the unhulled sweet clover which practically always has a high percentage of hard seeds, an increase of 90% in germination occurred. Grimm alfalfa containing 20 to 25 per cent hard seeds was improved in germination by scarification from 15 to 17 per cent. With Grimm seed, Grimm alfalfa containing from 20 to 25 per cent hard seeds was improved in germination by scarification from 15 to 17 per cent. With Grimm seed worth from 50 to 60 cents a pound the value of scarification in these instances amounted from \$7.00 to \$10.00 per cwt. in the way of improved immediate germination.

Where seed is recleaned after scarification a loss (consisting of seed particles, dust and seed-coat hulls) occurs which in three carefully conducted tests averaged a little less than 6 per cent. This, of course, will vary with the severity of scarification and thoroughness of recleaning. Most seed concerns do not reclean after scarification, claiming with much truth and justice that it would require an extra charge for scarified seed which might neither be appreciated nor understood.

It should be plainly understood that all clover and alfalfa seed does not require scarification. Oftentimes these seeds have a satisfactory germination without treatment. In a test conducted with 3,000 pounds of Grimm seed containing 10 per cent hard seeds only 1% improvement in the germination occurred. Likewise, where Baltic seed with 15% hard seed was scarified an increase of 4% in germination occurred. Our results, which are confirmed by Prof. H. D. Hughes of Ames, Iowa, who invented the scarifier, indicate that it is not profitable to scarify seed not containing more than 10 per cent hard seeds.

The value of scarification is not entirely indicated by laboratory germination tests. In coöperation with Elmer Clarke a (1918-1919) thesis student—germination tests were made with the same lot of Grimm alfalfa seed scarified and unscarified. After the official six day test, 100 seeds still remaining hard and not germinable were removed from the germinators containing the scarified seed and the same seed unscarified. These hard seeds were sown in soil on April 27, 1919. In three weeks the unscarified seed produced 25 seedlings (25%) while the scarified seed produced 46 seedlings (46%).

Scarification is largely a seedsman's proposition. It would hardly pay the average farmer to own a scarifying machine to scratch 100 or 300 pounds of seed that he may require annually for his seeding operations. Practically all seed concerns in Wisconsin own scarifiers.



Spreading ground limestone with an end gate type of lime distributor on the Pabst Stock Farms, Oconomowoc, Wisconsin.



The center area was not limed and the alfalfa turned sickly and yellow. Largely as a result of this demonstration 5,500 tons of lime rock were ground at local quarries in Green County at a saving of over \$12,000.

11. VALUE OF "GETTING THE NURSE CROP OFF EARLY" IN ESTABLISHING A STAND OF ALFALFA

Many a new stand of alfalfa and of clover, too, is ruined by the summer's drought which invariably comes in July and August. Then, too, grasshoppers frequently are a great aid in promoting the disasters of drought. Our co-operative trials with the members and special tests have revealed the distinct advantage of using early ripening or early harvested nurse crops with which to grow alfalfa. By getting the nurse crop off early the alfalfa will be benefited by an unhampered growth resulting from a higher moisture content in the soil before the drought period arrives. This good growing start strengthens the alfalfa and increases its drought resistance very remarkably. I have seen fields where part of the oats and barley were cut early for hay and the alfalfa was a perfect stand in the fall whereas on the remainder of the field where the grain was allowed to ripen the alfalfa was a failure, being killed out by the drought. This does not mean to say that cutting the grain for hay is always essential but it does show the necessity of using early ripening grain crops like Pedigree Barley and Kherson oats. Cutting the grain for hay is especially necessary when the grain lodges, otherwise, the alfalfa may smother.

Canning peas are one of our very best nurse crops because they are gotten off the land early—generally in June and this gives the seeding a chance to make a good strong vigorous growth to withstand the summer drought.



PIGS IN ALFALFA

Alfalfa is rated as one of our best hog pastures. The photo of these pigs comes from Henry Kjendahlen, Iola, Wisconsin, who writes, "I have lots of faith in alfalfa and appreciate very much the work done by the Alfalfa Order."

**MINUTES—ANNUAL MEETING OF THE ALFALFA
ORDER LA CROSSE, JANUARY 28 AND 29, 1921**

On the afternoon of January 28 the program was held. Our President, Mr. Peter Swartz, was chairman and gave an address on the "Merits of Alfalfa" which was followed by the Secretary's report. The remainder of the program is indicated by the attached copy.

On Saturday morning, January 29, the business meeting was held. The Experiment Association voted that the Chair should appoint a Nominating Committee consisting of Henry Michels, George Briggs, Tom Campion, Arthur Popp and Joseph Brunker. It was moved and seconded by L. F. Graber that this same Committee serve as a Nominating Committee for the Alfalfa Order.

This motion was unanimously carried.

Later on the Committees' report was read at which time S. P. Markle, La Crosse, Wisconsin, was suggested as President; Wm. H. Baase, Milwaukee, Wisconsin, Vice President and L. F. Graber, Madison, Secretary-Treasurer.

The report of the Nomination Committee was unanimously accepted and the aforementioned parties were duly elected to their respective offices.

The Secretary-Treasurer then gave a financial report for the past three years, all reports of which had been audited by the Executive Committee with the exception of the last report covering the period of July 1, 1920 to Jan. 4, 1921.

The report of the Treasurer was unanimously accepted by the meeting as read subject to the audit of the last financial statement covering the period of July 1, 1920 to January 4, 1921.

On motion of L. F. Graber, a rising vote was given to our retiring President, Mr. Peter C. Swartz.

The meeting was then adjourned at about 11:30 a. m.

Signed,

L. F. GRABER,
Secretary-Treasurer.

MINUTES OF THE MEETING OF THE EXECUTIVE COMMITTEE, LA CROSSE, THURSDAY, JAN. 27, 1921**GEO. W. DAVIES, PRESIDING**

Discussion on amending the constitution so as to change the membership fee to one dollar per year. The committee concurred in the recommendation of the previous meeting favoring a one dollar fee.

Discussion on amending the constitution so as to admit to membership county order members who have been actively engaged in county order work for at least two years and who are recommended by the secretaries of their respective county orders. The committee favored such an amendment.

A budget covering the prospective expenditures for the coming year was presented by the secretary, who emphasized the fact that with the present appropriation the Association has to limit greatly the number of lines of work carried on in order to keep within its income.

Discussion on methods of encouraging good County Order grain shows. Suggested that silver cups be awarded to County Orders meeting certain requirements in size and quality of shows. Moved and carried that the committee favor giving such trophies, the details to be worked out by the secretary.

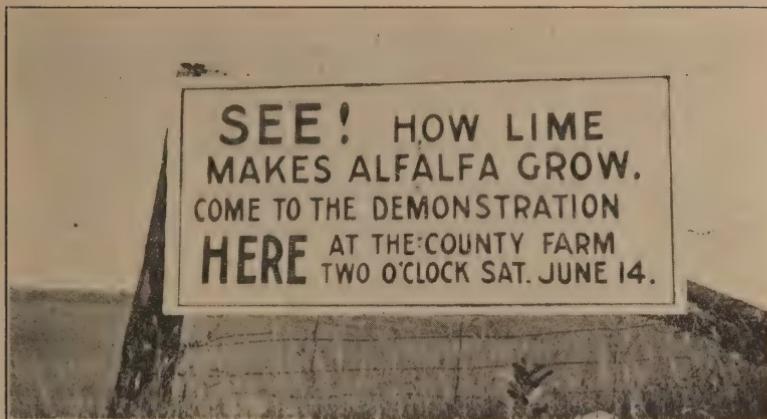
Discussion of the Two Acre Corn Yield Contest. Suggestion was made that if practicable, yield of shelled corn per acre instead of yield of ear corn be used in determining awards. The committee favored continuing the project.

Discussion on practical corn breeding for seed corn growers. Suggested that an article on this subject be included in the next annual report.

Discussion on returning grain samples of exhibitors after the show. No action taken, so present rules remain in force.

Discussion on location of 1922 Grain Show. Moved and carried that the secretary appoint a committee to determine the location of the 1922 Show. The secretary appointed.

Meeting adjourned.



ONE OF OUR ALFALFA-LIME DEMONSTRATION POSTERS



The double corrugated roller is efficient and economical in the preparation of a good firm garden-like seed bed for alfalfa and other crops.

REPORT OF THE BUSINESS MEETING

SATURDAY, JAN. 29, 1921

Meeting called to order at 9:30 A. M.

Moved and carried that the chairman appoint a nominating committee. Committee appointed.

Report of nominating committee: President, C. S. Ristow, Black River Falls; Vice President, J. A. Brunker, Ridgeway; Treasurer, Peter Swartz, Waukesha.

Moved and carried that the report of the nominating committee be adopted and the nominees be declared elected.

The new president took the chair.

Report of the treasurer, Peter Swartz. Report adopted.

Financial report of the secretary, R. A. Moore, on state funds. Report adopted.

Report of the secretary of the Alfalfa Order, L. F. Graber. Report adopted.

Report of committee on Soy bean Organization, with proposed constitution. Report adopted.

Report of the Executive Committee. Report adopted.

Moved and carried that Article III Section I be amended by adding: "Any county order member who has been actively engaged in county order work for two or more years, and who is recommended by the secretary of his county order and the secretary of the state association, is eligible to membership in the association."

Moved and carried that Article IV be amended to read:

"A fee of one dollar shall be collected from each member annually."

Moved and carried that a vote of thanks be extended to the retiring president, F. E. Bell, for his devotion to the interests of the Experiment Association.

Moved and carried that a note of thanks be extended to the retiring president of the Alfalfa Order, Peter Swartz, for his services in connection with the work of the Order.

Remarks by retiring presidents.

Moved and carried that Honorary Membership be conferred upon Mr. Jippa Wielinga, of Midway.

The committee on resolutions presented the following resolution, which was moved, seconded, and carried unanimously:

Be it resolved: That the Wisconsin Experiment Association and its affiliated Orders, appreciating the warm hospitality which the City and County of La Crosse have extended to the visitors to the Grain Show and the Annual Meeting, the great efforts which the various agencies within the City and County have made in providing splendid accommodations for the Show and for the Association's meetings and

for the entertainment of visitors, and the worthy purpose which actuated them—that of establishing a spirit of friendly co-operation and understanding between the country and city community—do hereby tender to the City and County of La Crosse and to the co-operating organizations the sincere thanks and gratitude of the members of the Experiment Association and the affiliated Orders.

Motion to adjourn carried.

SECRETARY'S FINANCIAL REPORT

R. A. Moore, Secretary, reported on the use and conditions of state and association funds as follows:

Balance in State Treasury, Feb. 6, 1920.....	\$ 4,776.72
State Appropriation, July 1, 1920.....	5,000.00
Receipts, Feb. 6, 1920—January 24, 1921.....	767.39
Total	\$10,544.11
Disbursements, Feb. 6, 1920—January 24, 1921.....	6,572.48
Balance on hand, January 24, 1921.....	\$ 3,971.63

WISCONSIN AT THE INTERNATIONAL HAY AND GRAIN SHOW

Wisconsin's Pure Bred and Pedigree Grains showed up true to form again at the big show at Chicago, and the exhibitors did themselves and the state great credit. One hundred forty exhibitors took part, winning eighty-one premiums and one thousand ten dollars. Wisconsin won more premiums than any other state in her region, but Michigan nosed out slightly ahead on the money, with one thousand ninety dollars.

An especially attractive feature of the Exposition was the large number of fine educational displays which showed in an effective manner important developments in scientific agriculture. The Wisconsin display featured the Pure Bred Bull Campaign, showing the progress made in replacing scrub sires with pure bred. The latest results in feeding hogs on pasture were demonstrated. The service of the College of Agriculture in determining by experimental work what are the best practices in plant and animal production, and in disseminating this information by practical demonstrations was shown attractively by charts and photographs.

Following is a list of winnings by counties:

Bayfield County—

F. G. Fay, Port Wing—14th on Durum Wheat.

F. J. Fay, Port Wing—10th on Oats.

J. Johnson, Port Wing—13th on Oats.

Oscar Swanson, Port Wing—2nd on Field Peas.

Brown County—

A. J. Delwiche, Green Bay—5th on Field Peas.

Buffalo County—

Louis N. Hanson, Mondovi—2nd on Oats.

Columbia County—

Wm. Bell, Arlington—10th on Six Rowed Barley.

Wm. Bell, Arlington—4th on Timothy.

A. C. Ellickson, Arlington—17th on Single Ear Corn.

A. J. Stace, Arlington—11th on Alfalfa Hay.

Dane County—

J. E. Brunker, Blue Mounds—2nd on White Dent Corn.

J. E. Brunker, Blue Mounds—18th on Yellow Dent Corn.

W. E. Colladay, McFarland—13th on White Dent Corn.

Dodge County—

Anton Bohl, Beaver Dam—12th on Oats.

Anton Bohl, Beaver Dam—3rd on Six Rowed Barley.

Chas. Howitt, Randolph—20th on Single Ear Corn.

Chas. Howitt, Randolph—10th on Alfalfa Hay.

J. W. Jung, Randolph—16th on Flint Corn.

J. L. Krause, Reeseville—6th on Oats.

Frank Lindley, Fox Lake—25th on Single Ear Corn.

Frank Lindley, Fox Lake—4th on Red Clover Hay.

Frank Lindley, Fox Lake—9th on Timothy Hay.

Fond du Lac County—

H. P. West, Ripon—12th on Durum Wheat.

H. P. West, Ripon—15th on Oats.

Grant County—

Elmer H. Biddick, Livingston—7th on Yellow Dent Corn.

W. D. Graham, Fennimore—6th on Timothy.

Walter J. Steinhoff, Platteville—14th on Single Ear Corn.

Walter J. Steinhoff, Platteville—9th on Six Rowed Barley.

Albert Kuestner, Glen Haven—22nd on White Dent.

Green County—

Chas. F. Weinrich, Brooklyn—17th on Flint Corn.

Iowa County—

Jos. A. Brunker, Ridgeway—19th on Single Ear Corn.

Jos. A. Brunker, Ridgeway—4th on Yellow Dent Corn.

A. N. Kelley, Mineral Point—18th on Single Ear Corn.

A. N. Kelley, Mineral Point—5th on Red Clover.

Jackson County—

Ubbe Anderson, North Bend—12th on White Dent Corn.

Jefferson County—

H. C. Brueckner, Jefferson—6th on Single Ear Corn.

H. C. Brueckner, Jefferson—8th on Yellow Dent Corn.

Leo Brueckner, Jefferson—16th on Single Ear Corn.

Leo Brueckner, Jefferson—3rd on Yellow Dent Corn.

R. H. Lang, Jefferson—24th on Oats.

Edward Slickers, Jefferson—9th on Single Ear Corn.

La Crosse County—

John Bendel, Jr., Stoddard—15th on White Dent Corn.

John Bendel, Jr., Stoddard—19th on Six Rowed Barley.

C. Labus, Bangor—9th on White Dent Corn.

Carl Labus, Bangor—18th on Oats.

La Crosse School of Agric., La Crosse—8th on Alfalfa Hay.

Ed. Peters, La Crosse—20th on Oats.
Ed. Peters, La Crosse—6th on Six Rowed Barley.
Jippa Wielinga, Midway—5th on Yellow Dent Corn.
Otto Wolf, La Crosse—8th on White Dent Corn.
Otto Wolff, La Crosse—5th on Oats.
Otto Wolff, La Crosse—1st on Timothy.

Marathon County—

F. Drendi, Wausau—7th on Timothy.
M. L. Olson, Mosinee—7th on Six Rowed Barley.
Ed. Whitmore, Wausau—14th on Oats.

Milwaukee County—

Wm. Basse, Milwaukee—19th on Hard Red Winter Wheat.
Wm. H. Basse, Milwaukee—2nd on Six Rowed Barley.
Peter Gelleman, West Allis—30th on Oats.
Wm. F. Krempel, West Allis—33rd on Oats.
Fred Kurtze, Hales Corner—16th on Oats.

Oconto County—

Herman Hartwig, Gillett—29th on Rye.

Richland County—

H. T. Draheim, Gotham—11th on Single Ear Corn.
H. T. Draheim, Gotham—14th on Flint Corn.
H. T. Draheim, Gotham—5th on Six Rowed Barley.
H. T. Draheim, Gotham—4th on Two Rowed Barley.
H. T. Draheim, Gotham—6th on Yellow Dent Corn.

Rock County—

Noyes Raessler, Beloit—9th on Yellow Dent Corn.
J. R. Thorpe, Beloit—1st on White Dent Corn.
THERON THORPE, Beloit—7th on White Dent Corn.

St. Croix County—

Fay Bros., New Richmond—28th on Oats.

Shawano County—

Bernard Andrews, Shawano—4th on Soy Beans.
Otto Creening, Shawano—29th on Oats.
Rudy Gopp, Shawano—21st on Six Rowed Barley.
Frank Griepp, Shawano—16th on Six Rowed Barley.
Alex Hildeman, Belle Plain—35th on Oats.
Roman Muskavitch, Shawano—27th on Oats.
Roman Muskavitch, Shawano—12th on Six Rowed Barley.

Trempealeau County—

E. H. Thompson, Blair—19th on Six Rowed Barley.
E. H. Thompson, Blair—9th on Oats.

Waukesha County—

H. E. Rosenow, Oconomowoc—24th on Hard Red Winter Wheat.
Swartz Bros., Waukesha—1st on Alfalfa Hay.

PREMIUM AWARDS**Wisconsin State Grain Show, La Crosse, Wis., Jan. 26, 1921****Ten Ears Silver King (Wis. No. 7) (North Section)**

Frank Blonde, Green Bay.
Alex Hildeman (%H. Murphy) Shawano.
W. C. Jenkins, Bangor.
A. Lenzmeier, Shakopee, Minn.
H. Brewer, Hudson.

Ten Ears Early Yellow Dent (Wis. No. 8) (North Section)

E. Reading, Green Bay.
Wm. Herman, Shawano.
Chas. Koonz, Gresham.

Ten Ears Golden Glow (Wis. No. 12) (North Section)

Jacobsen Bros., Green Bay.
Henry Baumgartner & Sons, Wrightstown.
Paul Falk, Bonduel.
Roman Muskvitch, Shawano.
Emil Jacobsen, Green Bay.

Ten Ears Wisconsin No. 25 (North Section)

Rudy Krueger, Cecil.
G. R. Rousseau, Cecil.
Joachin Carstens, Crivitz.
Anthony Delwiche, Green Bay.
Ernest Froelich, Shawano.

Ten Ears Minnesota No. 13 (North Section)

Wm. Byrne, Farmington, Minn.

Ten Ears White Rustler (North Section)

Ernest Froelich, Shawano.
Ralph Phillips, Detroit, Minn.

Fifty Ears Golden Glow (North Section)

Jacobsen Bros., Green Bay.

Fifty Ears Yellow Dent (Wis. No. 8) or Wis. No. 25 (North Section)

Rudy Krueger, Cecil.

Ten Ears Silver King (Wis. No. 7) (South Section)

Joseph A. Brunker, Ridgeway.
Otto Wolf, La Crosse.
John Rasmussen, Hartland, Minn.
Ubbe Anderson, Melrose.
Peterson Bros., New Richland, Minn.

Ten Ears Early Yellow Dent (Wis. No. 8) (South Section)

R. H. Lang, Jefferson.
A. O. Popp, Jefferson.
Albert Spangler, Jefferson.

Ten Ears Golden Glow (Wis. No. 12) (South Section)

Linus Spangler, Jefferson.
M. J. Strunk, Ft. Atkinson.
Chas. Roddle, Melrose.
R. H. Lang, Jefferson.
Geo. G. Baier, La Crosse.

Ten Ears Murdock (Wis. No. 13) (South Section)

H. C. Brueckner, Jefferson.

Peterson Bros., New Richland, Minn.

Lewis M. Scott, Fairmont, Minn.

Leo Brueckner, Jefferson.

Michael Boese, Jefferson.

Ten Ears Minnesota No. 13 (South Section)

C. E. Lehman, Doyle, Minn.

Thos. Hosken, H. Redwood, Minn.

John Brown, Redwood Falls, Minn.

Francis Eckhardt, Le Sueur, Minn.

Ten Ears White Rustler (South Section)

John Rasmussen, Hartland, Minn.

Thos. Hosken, N. Redwood, Minn.

Francis Eckhardt, Le Sueur, Minn.

Fifty Ears Silver King (Wis. No. 7) (South Section)

S. P. Markle, La Crosse.

Ed. Peters, La Crosse.

John Bendel, Stoddard.

Jos. A. Brunker, Ridgeway.

J. R. Thorpe, Beloit.

Fifty Ears Golden Glow (Wis. No. 12) (South Section)

Jos. A. Brunker, Ridgeway.

Hyde & Funk, La Crosse.

Jippa Wieldinga, Midway.

J. E. Brunker, Blue Mounds.

John Bendel, Stoddard.

Fifty Ears Murdock—Wis. No. 13 or Clarke's Yellow Dent (South Section)

H. C. Brueckner, Jefferson.

Leo Brueckner, Jefferson.

Tillie Boese, Jefferson.

Robert E. Boese, Jefferson.

Michael Boese, Jefferson.

Ten Ears 8-rowed Red, Yellow, or Smut Nose Flint Corn (Either Section)

Coley Strong, West Allis.

A. O. Popp, Jefferson.

Chas. Chronasta, Iron River.

Ten Ears 8-row White Flint Corn (Either Section)

Ernest Froelich, Shawano.

Gust Guskalkson, Columbus.

Ten Ears Pop Corn (Either Section)

Thos. G. Claridge, Reedsburg.

Albert Spangler, Jefferson.

C. E. Lehman, Doyle, Minn.

Otto Wolf, La Crosse.

Linus Spangler, Jefferson.

Ten Ears Sweet Corn (Either Section)

Linus Spangler, Jefferson.

Albert Spangler, Jefferson.

Single Ear Dent Corn, Any Variety (Either Section)

J. R. Thorpe, Beloit.
H. C. Brueckner, Jefferson.
Leo Brueckner, Jefferson.
A. H. Thompson, Black River Falls.
Jippa Wielinga, Midway.

One Peck Wis. Pedigree Barley

Tom Moore, Green Bay.
Louis Krohn, Shawano.
Otto Wolf, La Crosse.
E. Schmidt, Wrightstown.
Ed. Peters, La Crosse.

Peck Any Other Variety

Otto Wolf, La Crosse.
H. P. Matson, Frazee, Minn.
Erickson Bros., Port Wing.
Chas. Chronasta, Iron River.

Peck Pedigree No. 1 Oats

Otto Wolf, La Crosse.
Peter Dengel, La Crosse.
Joe Vandenplas, Green Bay.
H. R. Berndt, West De Pere.
Jacobsen Bros., Green Bay.

Peck Pedigree No. 5 Swedish Select Oats.

L. M. Hanson, Mondovi.
J. L. Krause, Reeseville.
Wm. R. Leonard, Ft. Atkinson.
Otto Wolf, La Crosse.
Arthur O. Popp, Jefferson.

Peck Wisconsin Pedigree No. 7 Oats

Frank Gasper, Rockland.
Henry Baumgartner & Sons, Wrightstown.
A. A. Haney, Lone Rock.
R. H. Lang, Jefferson.
Geo. H. Leonard, Ft. Atkinson.

Peck Any Other Variety Oats

Alfred Breiwick, West Salem
Otto Wolf, La Crosse.
Louis Schmidt, Rothschild.
J. L. Krause, Reeseville.

Peck Winter Wheat

Martin Haevers, Luxemburg.
Wm. Marquardt, Lyndhurst.
Roman Muskivitch, Shawano.
Otto Schroeder, Wilton.
Mike Morgan, Denmark.

Peck Spring Wheat

Wm. S. Ash, St. Vincent, Minn.
E. H. Thompson, Webster.
Fred Dumdei, Wausau.
John Erickson, Ashland.
Oscar Hendrickson, Boyceville.

Peck Wisconsin Pedigree Winter Wheat.

Wm. Herman, Shawano.
Herman Schoenek, Enterprise.
Louis Schmidt, Rothschild.
Reinhold Kressin, Jackson.
Max Klemann, Shawano.

Peck Any Other Variety.

Fred Deumdei, Wausau.
E. J. Reinheimer, Cecil.
Albert Klipesdl, Shawano.
Ed. Peters, La Crosse.

Peck Medium Red or Mammoth Clover.

Jake Knauf, Marathon City.
Roman Muskivitch, Shawano.
La Crosse Co. School, Onalaska.
Schmidt Bros., Foxboro.

Peck Alsike Clover.

Carl Kolb, Barron.
Aug. Seefeldt, Wausau.
Wm. Bartlett, Barron.
J. L. Krause, Reeseville.

Peck Timothy

Gus. T. Rasche, Westbrook, Minn.
Wat Graham, Fennimore.
Wm. Marquardt, Lyndhurst.
Albert Sunnicht, Bonduel.

Peck Silver Hull Buckwheat.

Chas. Koonz, Gresham.
Gus. Guskalkson, Columbus.
Chas. Chronasta, Iron River.

Peck Japanese Buckwheat

J. L. Krause, Reeseville.
Wm. McKenzie, Shawano.
Howard Kinney, Onalaska.

Peck Navy Beans

Joe Vandenplas, Green Bay.
Chas. Remer, Potosi.
J. L. Krause, Reeseville.
Geo. Wheelock, Green Bay.

Peck Black Soy Beans

Max Du Quaine, New Franken.
Joe Vandenplas, Green Bay.
Bernard Andrews, Shawano.
Paul Veglahn, Onalaska.
E. H. Thompson, Webster.

Peck Ito San Soy Beans

C. S. Ristow, Black River Falls.
H. T. Draheim, Gotham.
Norman Knott, Elk Mound.
R. Kastenschmidt, Midway.
A. J. Schnick, Onalaska.

- Peck Manchu Soy Beans
Chas. Koonz, Gresham.
Joe Vandenplas, Green Bay.
P. W. Harris, Viroqua.
Jacobsen Bros., Green Bay.
- Peck Black Eyebrow
E. H. Thompson, Webster.
- Peck Any Other Variety Soy Beans
H. R. Berndt, West De Pere.
- Peck Smooth Peas
Paul Falk, Bonduel.
Ed. Whitmore, Wausau.
Reinhold Kressin, Jackson.
John Delfield, Highbridge.
- Peck Wrinkled Peas.
Chas. Chronasta, Iron River.
Frank Roffers, Ashland.
V. E. Brubaker, Washburn.
Albert Lohberger, Bennett.
- Peck Scotch Peas
John Brester, Green Bay.
Fred Roffers, Ashland.
Abe Anderson, Ashland.
Max Du Quaine, New Franken.
- Peck Green Peas
Oscar Swanson, Port Wing.
Abe Anderson, Ashland.
P. E. Sheppler, Rockland.
John Schmilk, Glidden.
- Peck Any Other Variety Field Peas
Andrew Peterson, Ashland.
Steve Hahjak, Moquah.
Emil Rick, Wausau.
- One Half Peck Amber Sorghum Seed
S. P. Markle, La Crosse.
Gust Guskalkson, Columbus.
Jewett E. Filler, Onalaska.
- Peck Sudan Grass Seed
Henry Baumgartner & Sons, Wrightstown.
- Peck Flax Seed
H. P. Matson, Frazee, Minn.
John Bresters, Green Bay.
Joe Gassner, Marathon City.
Gustav T. Rasche, Westbrook, Minn.
- Sheaf Wisconsin Pedigree Barley
Henry Baumgartner & Sons, Wrightstown.
Jacobsen Bros., Green Bay.
Chas. Schmidt, Wrightstown.
Otto Wolf, La Crosse.
- Sheaf Any Other Variety Barley
Ed. Peters, La Crosse.
Otto Wolf, La Crosse.
R. H. Lang, Jefferson.
Roman Muskivitch, Shawano.

Sheaf Wisconsin Pedigree No. 1 Oats
 Henry Baumgartner & Sons, Wrightstown
 H. T. Draheim, Gotham.
 R. H. Lang, Jefferson.
 Chas. Schmidt, Wrightstown.

Sheaf Wisconsin Pedigree No. 5 Oats
 J. L. Krause, Reeseville.
 R. H. Lang, Jefferson.
 Jacobsen Bros., Green Bay.
 P. W. Jones, Black River Falls.

Sheaf Wisconsin Pedigree No. 7 Oats
 Frank Gasper, Rockland
 J. L. Krause, Reeseville.
 R. H. Lang, Jefferson.
 Henry Baumgartner & Sons, Wrightstown.

Sheaf Any Other Variety Oats
 Otto Wolf, La Crosse.
 Louis Kunert, La Crosse.
 Joe Vandenplas, Green Bay.
 J. L. Krause, Reeseville.

Sheaf Winter Wheat
 Chas. Schmidt, Wrightstown.
 J. L. Krause, Reeseville.
 Frank Blonde, Green Bay.
 Peter Dengel, La Crosse.

Sheaf Spring Wheat
 Otto Wolf, La Crosse.
 J. L. Krause, Reeseville.
 Ed. Peters, La Crosse.
 Chas. Chronasta, Washburn.

Sheaf Wisconsin Pedigree Rye
 Otto Wolf, La Crosse.
 Chas. Schmidt, Wrightstown.
 Peter Dengel, La Crosse.
 J. L. Krause, Reeseville.

Sheaf Any Other Variety Rye
 Ed. Peters, La Crosse.
 A. H. Thompson, Black River Falls.
 Otto Wolf, La Crosse.
 Wm. Wenzel, Shawano.

Ten Heads Amber Sorghum
 S. P. Markle, La Crosse.
 Jewett E. Filler, Onalaska.
 A. J. Stace, Portage.
 Gus Guskalkson, Columbus.

Bundle of Alfalfa
 Otto Wolf, La Crosse.
 Jacobsen Bros., Green Bay.
 S. P. Markle, La Crosse.
 La Crosse Co., School, Onalaska.

Exhibits consisting of first, second, and third cuttings of Alfalfa
 La Crosse Co. School, Onalaska.
 A. J. Stace, Portage.
 Jacobsen Bros., Green Bay.
 Andrew Simmons, New Franken.

Bundle of Red Clover

H. R. Berndt, West De Pere.
Otto Wolf, La Crosse.
A. E. Dengel, Rockland.
M. J. Wallrich, Shewano.

Bundle Mammoth Clover

Otto Wolf, La Crosse.
E. Gilberg, Shawano.
A. H. Thompson, Black River Falls.
J. L. Krause, Reeseville.

Bundle Alsike Clover

H. T. Draheim, Gotham
Otto Wolf, La Crosse.
H. R. Berndt, West De Pere.
Henry Baumgartner & Sons, Wrightstown.

Bundle Vetch

Louis Krohn, Shawano.
La Crosse Co. School, Onalaska.
J. L. Krause, Reeseville.
Geo. Jewell, Randall.

Bundle Timothy

Chas. Schmidt, Wrightstown.
J. L. Krause, Reeseville.
Henry Baumgartner, Wrightstown.
H. T. Draheim, Gotham.

Bundle of Sudan Grass

S. P. Markle, La Crosse.
Louis Kunert, La Crosse.
Jippa Wielinga, Midway.
Otto Wolf, La Crosse.

Bundle Any Other Hay not included above

Henry Baumgartner & Sons, Wrightstown.
A. M. Ten Eyke, Brodhead.
A. J. Stace, Portage.

Bundle Soy Bean Hay

A. H. Thompson, Black River Falls.
A. E. Dengel, Rockland.
Carl Hanson, Onalaska.
Carl Sjolander, Onalaska.

Bundle Mature Soy Beans (Wis. Black, Early Black, Manchu Black Eyebrow)

Jippa Wielinga, Midway.
Chas. Koonz, Gresham.
Henry Baumgartner, Wrightstown.
V. E. Brubaker, Washburn.

Bundle Mature Soy Beans

J. L. Krause, Reeseville.
Otto Wolf, La Crosse.
Gus. Guskalkson, Columbus.
S. P. Markle, La Crosse.

Bundle Field Pea Hay

Otto Wolf, La Crosse.
John Bendel, Stoddard.
Roman Muskivitch, Shawano.
Geo. Jewell, Randall.

Bundle Mature Field Peas
 Frank Gasper, Rockland.
 P. E. Sheppeler, Rockland.
 Gus Guskalkson, Columbus.

Bundle Hemp
 Wisconsin Hemp Mills, Brandon.
 Herman Lenz, Camberia.
 Ernest Lohry, Markesan.
 Ed. Murray, Roberts.

Hand of Hemp
 Wisconsin Hemp Mills, Brandon.
 S. B. Friday, Beaver Dam.
 Badger Hemp Company, Fairwater.

Sheaf of Flax
 J. L. Krause, Reeseville.
 V. E. Brubaker, Washburn.
 Peter Dengel, La Crosse.
 Gust Guskalkson, Columbus.

HONORARY CLASS

Ten Ears Clark's Yellow Dent (Wis. No. 1)
 H. T. Draheim, Gotham.

Ten Ears Silver King, (Wis. No. 7)
 John Bendel, Stoddard.
 S. P. Markle, La Crosse.
 J. E. Brunker, Blue Mounds.
 J. R. Thorpe, Beloit.

Ten Ears Early Yellow Dent (Wis. No. 8)
 Lang Bros., Jefferson.
 Frank Gasper, Rockland.

Ten Ears Golden Glow (Wis. No. 12)
 J. E. Brunker, Ridgeway.
 Jippa Wielinga, Midway.
 H. T. Draheim, Gotham.
 Chas. Howitt, Randolph.

Ten Ears Any Variety 8-rowed Flint.
 H. T. Draheim, Gotham.
 Frank Gasper, Rockland.
 Geo. Leonard, Fort Atkinson.

Peck Wisconsin Pedigree Barley.
 Wm. Basse, Milwaukee.
 Jacobsen Bros., Green Bay.
 Chas. Howitt, Randolph.

Peck Wisconsin Pedigree No. 1 Oats
 Henry Baumgartner & Sons, Wrightstown.
 H. T. Draheim, Gotham.

Peck Wisconsin Pedigree No. 5 or Swedish Select Oats
 H. T. Draheim, Gotham.
 Henry Baumgartner & Sons, Wrightstown.
 Jacobsen Bros., Green Bay.

Peck Winter Wheat
 Wm. Basse, Milwaukee.
 J. L. Krause, Reeseville.
 A. O. Popp, Jefferson.

Peck Spring Wheat
Swartz Bros., Waukesha.

Peck Wisconsin Pedigree Rye
A. H. Thompson, Black River Falls.

Bundle of Alfalfa
Wm. H. Basse, Milwaukee.

SWEEEPSTAKES AND TROPHY AWARDS

Best Ten Ears Silver King Corn
John Bendel, Stoddard

Best Sample Wisconsin Pedigree No. 1 Oats
Otto Wolf.

Best Sample Spring Wheat.
Swartz Bros., Waukesha.

Best Sample Winter Rye
Fred Dumdei, Wausau.

Best Bundle Wisconsin Pedigree Barley
Henry Baumgartner & Sons, Wrightstown.

Best Ten Ears Yellow Dent Corn
Jos. A. Brunker, Ridgeway.

Best 50 Ears Silver King Corn
S. P. Markle, La Crosse.

Best Peck Wisconsin Pedigree 5 Oats
L. M. Hanson, Mondovi.

Best Peck Six Rowed Barley
Tom Moore, Green Bay

Best Ten Ears Any Variety Corn
J. A. Brunker, Ridgeway.

Best 50 Ears Yellow Dent Corn
J. A. Brunker, Ridgeway.

CONSTITUTION AND BY-LAWS

CONSTITUTION

Article I—Name

This organization shall be known as the Wisconsin Agricultural Experiment Association.

Article II—Object

The object of this association shall be to promote the agricultural interests of the state.

1st. By carrying on experiments and investigations that shall be beneficial to all parties interested in progressive farming.

2d. To form a more perfect union between the former and present students of the Wisconsin College of Agriculture so as to enable them to act in unison for the betterment of rural pursuits in carrying on systematic experiments along the various lines of agriculture;

3d. By growing and disseminating among its constituency new varieties of farm seeds and plants;

4th. By sending literature bearing upon agricultural investigation to its membership, and

5th. By holding an annual meeting in order to report and discuss topics and experiments beneficial to the members of the association.

Article III—Membership

Section I. All former, present and future students and instructors of the Wisconsin College of Agriculture shall be entitled to become members of this association.

Any county order member who has been actively engaged in county order work for two or more years, and who is recommended by the secretary of his county order and the secretary of the state association, is eligible to membership in the association.

Section II. Honorary membership may be conferred upon any one interested in progressive agriculture by a majority vote at any annual or special meeting of the association.

Article IV—Dues

A fee of one dollar shall be collected from each member annually.

Article V—Officers

The officers of this association shall consist of a president, vice president, secretary, and treasurer, whose terms of office shall be one year or until their successors are elected.

Article VI—Duties of Officers

Section I. It shall be the duty of the president to preside at all meetings of the society and enforce the observance of such rules and regulations as will be for the best interest of the organization; to appoint all regular committees as he may deem expedient for the welfare of the association.

Section II. In the absence of the president, the vice president shall preside and perform all duties of the president.

Section III. It shall be the duty of the secretary to keep all records of the association; to report the results of all coöperative experiments carried on by its membership and the experiment station, plan the experimental work for the members of the association, and labor for the welfare of the society in general.

Section IV. The treasurer shall collect fees, keep secure all funds of the association and pay out money on the written order of the secretary, signed by the president. He shall furnish bonds in the sum of two thousand dollars, with two sureties, for the faithful performance of his duties.

Article VII—Amendments

This constitution may be amended at any annual meeting by a two-thirds vote of the members of the association present.

Amendment No. 1—Adopted Feb. 9, 1906

Any person residing within the state having completed a course in agriculture in any college equivalent to that given by the Wisconsin University, may become a member of this association under the same regulations as students from the Wisconsin College of Agriculture.

Amendment No. 2—Adopted Feb. 11, 1909

Any County Agricultural School within the state may be admitted to membership of the Experiment Association upon request by the principal of such school and the payment of an annual fee of \$1.00.

BY-LAWS

Article I. The officers of this association shall be elected by ballot at the annual meeting.

Art. II. The president and secretary shall be ex officio members of the executive committee.

Art. III. This association shall be governed by Roberts' Rules of Order.

Art. IV. All members joining at the organization of this association shall be known as charter members.

Art. V. The time and place of the annual meeting shall be determined by the executive and program committees.

Constitution adopted and organization effected Feb. 22, 1901.

**COUNTY PURE BRED SEED GROWERS ASSOCIATIONS AND
OFFICERS WHO GUIDE THEM****Barron County**

President—Wm. Bartlett, Barron
Vice President—W. H. Clark, Rice Lake
Secretary-Treasurer—R. L. Cuff, Barron

Brown County

President—Frank Blonde, Green Bay, R. 1
Secretary—J. N. Kavanaugh, Green Bay
Treasurer—Joe Schneider, New Franken

Burnett County

President—A. J. Dufty, Webster
Vice President—E. R. Reitan, Leef
Secretary-Treasurer—E. H. Thompson, Webster

Calumet County

President—H. J. Duecker, Kiel
Vice President—Carl J. Peik, Chilton
Secretary-Treasurer—Royal Klofanda, New Holstein

Clark County

President—Fred Sears, Neillsville, R. F. D. 2
Vice President—J. E. Counsell, Neillsville, R. 1
Secretary-Treasurer—R. V. Brown, Neillsville

Columbia County

President—F. E. Bell, Columbus
Vice President—August Soldner, Reeseville
Secretary-Treasurer—E. J. Fritz, Columbia, R. 3

Dane County

President—Otto Toepfer, Madison, R. F. D.
Vice President—J. F. Koltes, Dane
Secretary-Treasurer—

Dodge County

President—H. E. Krueger, Beaver Dam
Vice President—W. E. Bussewitz, Juneau
Secretary-Treasurer—A. A. Brown, Juneau

Door County

President—Frank Krueger, Forestville
1st Vice President—C. F. Martens, Egg Harbor
2nd Vice President—Julius Hass, Ellison Bay
3rd Vice President—Ole Erickson, R. F. D., Washington Island
Secretary-Treasurer—Moulton B. Goff, Sturgeon Bay

Eau Claire County

President—Chas. L. Koll, Eau Claire, R. F. D.
Vice President—J. H. Halbert, Augusta
Secretary-Treasurer—A. C. Russell, Augusta

Fond du Lac County

President—L. B. Cummings, Fond du Lac
Vice President—W. A. Lawson, Rosendale
Secretary-Treasurer—Frank J. Donovan, Van Dyne

Forest County

President—J. Hutsel, Laona
Vice President—C. J. Rasmussen, North Crandon
Secretary-Treasurer—A. W. Schmutzer, Crandon

Grant County

President—W. J. Steinhoff, Platteville
Vice President—Chas. Wilkins, Platteville
Secretary-Treasurer—J. C. Brockert, Platteville

Green County

President—M. L. Karney, Brodhead
Vice President—Wm. Smiley, Albany
Secretary-Treasurer—C. Tochterman, Jr., Monroe

Green Lake County

President—W. F. Kolb, Berlin
Secretary—Wm. Michaels, Berlin
Treasurer—Chas. Gibbard, Berlin

Iowa County

President—Otto Oimoen, Barneveld
Secretary-Treasurer—Joe Brunker, Ridgeway

Jackson County

President—C. S. Ristow, Black River Falls
Vice President—P. A. Hemmy, Humbird
Secretary-Treasurer—A. P. Jones, Black River Falls

Jefferson County

President—Geo. Leonard, Ft. Atkinson
Vice President—Linus Spangler, Jefferson
Secretary-Treasurer—Raymond Lang, Jefferson

Juneau County

President—Claude Hale, Mauston
Vice President—James MacKenzie, Mauston
Secretary-Treasurer—Wm. J. Rogan, Mauston

Kenosha County

President—H. H. Lois, Camp Lake
Vice President—
Secretary-Treasurer—L. J. Morin, Kenosha

Kewaunee County

President—W. C. Katel, Kewaunee, R. F. D. 1
Vice President—J. H. Koss, Kewaunee, R. F. D. 1
Secretary-Treasurer—Jos Koss, Casco

La Crosse County

President—Ed. Peters, LaCrosse
Vice President—H. J. Rogers, LaCrosse
Secretary-Treasurer—L. C. Hatch, Onalaska

LaFayette County

President—H. D. Schreiter, Darlington
Vice President—John Stephenson, Darlington
Secretary-Treasurer—W. W. Woolworth, Darlington

Langlade County

President—Geo. Wunderlich, Elmhurst
Vice President—Chas. Schotte, Antigo, R. F. D. 5
Secretary-Treasurer—W. M. Bewick, Antigo

Lincoln County

President—A. H. Morse, Tomahawk
Secretary-Treasurer—A. H. Cole, Merrill

Manitowoc County

President—A. H. Bauer, Manitowoc
Secretary-Treasurer—C. W. Meisnest, Manitowoc, 1513 Mich. Ave.

Marathon County

President—Fred Bandy, Wausau, R. F. D. 2
Vice President—Mike Bauman, Marathon
Secretary-Treasurer—F. G. Swoboda, Wausau

Marinette County

President—W. E. Morton, Marinette
Vice President—C. F. Kennison, Pembine
Secretary-Treasurer—M. E. Sibole, Marinette

Milwaukee County

President—E. S Robbins, Elm Grove
Vice President—Nels Guenther, So. Milwaukee
Secretary-Treasurer—C. E. Fawcett, Wauwatosa

Monroe County

President—C. F. Hanson, Sparta
Vice President—L. A. Miller, Sparta
Secretary-Treasurer—C. E. Hitchcock, Sparta

Oconto County

President—Will Mason, Lena
Vice President—V. P. Reeves, Stiles
Secretary—John J. Caldwell, Oconto
Treasurer—C. E. Tucker, Oconto

Oneida County

President—W. P. Jewell, Rhinelander
Vice President—Geo. Burkhart, Rhinelander
Secretary-Treasurer—C. P. West, Rhinelander

Ozaukee County

President—Wm. J. Bichler, Belgium
Vice President—Chas. J. Nieman, Cedarburg
Secretary Treasurer—Richard F. Berger, Fredonia

Pierce County

President—W. O. Peirce, River Falls
Vice President—Ed. Campbell, Ellsworth
Secretary-Treasurer—

Polk County

President—

Vice President—Geo. Clark, Dresser Jct.

Secretary-Treasurer—J. S. Klinka, Balsam Lake

Price County

President—Geo. Lawton, Park Falls

Vice President—C. A. Peterson, Prentice

Secretary-Treasurer—H. J. Rahmlow, Phillips

Racine County

President—James B. Cheesman, Racine

Vice President—C. C. Gittings, Racine

Secretary-Treasurer—E. A. Polley, Rochester

Richland County

President—H. T. Draheim, Gotham

Vice President—R. R. Runke, Richland Center

Secretary-Treasurer—Verne W. Post, Sextonville

Rock County

President—Noyes Raessler, Beloit

Vice President—Floyd Hubbard, Evansville

Secretary-Treasurer—R. T. Glassco, Janesville

St. Croix County

President—R. W. Brunner, Hudson

Vice President—O. H. Brown, New Richmond

Secretary-Treasurer—Geo. J. Ruemmele, Hudson

Sauk County

President—Albert Wickern, Baraboo

Vice President—R. J. Martin, Baraboo

Secretary-Treasurer—H. M. Eschenbach, North Freedom

Sawyer County

President—Jens Uhrenholdt, Hayward

Secretary-Treasurer—

Shawano County

President—M. J. Wallrich, Shawano

Vice President-Treasurer—Ira J. Weeks, Shawano

Secretary—A. C. Murphy, Shawano

Sheboygan County

President—Arthur Zelm, Plymouth

Vice President—A. Miller, Plymouth

Secretary-Treasurer—W. G. Streiber, Elkhart Lake

Superior District, Including Ashland, Bayfield and Douglas Counties

President—H. W. Wright, Ashland

Vice President—Abraham Anderson, Ashland, R. 3

Secretary—E. J. Delwiche, Ashland, 205 Sheridan Bldg., Green Bay

Treasurer—V. E. Brubaker, Washburn

2nd Vice President—(Rep. Douglas Co.) Edward Vaughan

3rd Vice President—(Rep. Ashland Co.) S. H. Hanna

Taylor County

President—John Gamper, Medford
Vice President—Chas. Ditzke, Stetsonville
Secretary-Treasurer—R. A. Kolb, Medford

Vernon County

President—Nels O. Neprud, Coon Valley
Vice President—Cornelius Sebion, Westby
Secretary-Treasurer—Walter McClurg, Viroqua

Walworth County

President—Jesse S. Harris, Delavan
Vice President—Ross H. Ells, Darien
Secretary-Treasurer—L. J. Merriam, Elkhorn

Washburn County

President—M. W. Cadle, Shell Lake
Vice President—E. H. Allen, Shell Lake
Secretary-Treasurer—Ed. Rylander, Shell Lake

Waukesha County

President—H. E. Rosenow, Oconomowoc
Vice President—S. A. Beard, Waukesha
Secretary-Treasurer—J. F. Thomas, Waukesha

Washburn County

President—Wm. Reimer, Wautoma
Vice President—Gage Byse, Wautoma
Secretary-Treasurer—Supt. E. Coates, Wautoma

Winnebago County

President—A. J. Cross, Allenville
Vice President—E. Race, Omro
Secretary-Treasurer—

Wood County

President—A. P. Bean, Vesper, R. F. D. 1
Vice President—J. F. Schmidt, Arpin, R. F. D. 2
Secretary-Treasurer—Ralph A. Peterson, Grand Rapids

CONSTITUTION AND BY-LAWS OF THE COUNTY ORDER OF THE WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION

Article I.—Name. The organization shall be known as the.....
.....County Pure Bred Seed Growers Association—an Order of the Wisconsin Experiment Association.

Article II.—Object. The object of this organization shall be to promote the agricultural interests of the County and State in general.

1st. By coöperating with the Experiment Association in growing and disseminating pure bred seed grains.

2nd. By having Associations' exhibits at agricultural fairs.

3rd. By having annual meetings in order to report and discuss topics beneficial to the members of the Order.

Article III.—Membership. 1. Any person may become a member of this Order who has taken a course in the College of Agriculture at Madison or at any place in the State under the jurisdiction of the College.

2. Any one who is interested in pure bred grains and live stock or in progressive farming in general may become a member of this Order.

3. Honorary membership may be conferred upon anyone interested in progressive agriculture by a majority vote at any annual or special meeting.

Article IV.—Dues. A fee of fifty cents shall be collected from each member annually.

Article V.—Officers. The officers of this Order shall consist of a President, Vice President and Secretary-Treasurer, whose terms of office shall be one year, or until their successors are elected.

Article VI.—Duties of Officers. 1. It shall be the duty of the President to preside at all meetings of the Order and to enforce the observance of such rules and regulations as will be for the best interest of the organization; to appoint all regular committees as he may deem expedient for the welfare of the Order.

2. In the absence of the President, the Vice President shall preside and perform the duties of the President.

3. The Secretary-Treasurer shall keep the records of all meetings and proceedings of the Order, also the names of all members and their addresses. He shall also keep the funds of the Order, collect all fees, pay all debts, and shall submit a written statement of all moneys received and paid out by him and shall balance his books not later than one month before the annual meeting.

Article VII.—Disbursements. The funds of the Order shall be used to defray expenses or by vote of the Order for such purposes as will advance the agricultural interests of the Order and shall be paid out

only upon an order signed by the President and countersigned by the Secretary.

Article VIII.—Amendments. This constitution may be amended at any meeting, by a two-thirds vote of the members of the Order present.

BY-LAWS

Article I.—The officers of this Order shall be elected by ballot at the annual meeting.

Article II.—This Order shall be governed by Robert's Rules of Order.

Article III.—All members joining at the organization of this Order shall be known as Charter Members.

Article IV.—The time and place of holding the annual meeting shall be determined by the officers.

Adopted , 19.....

